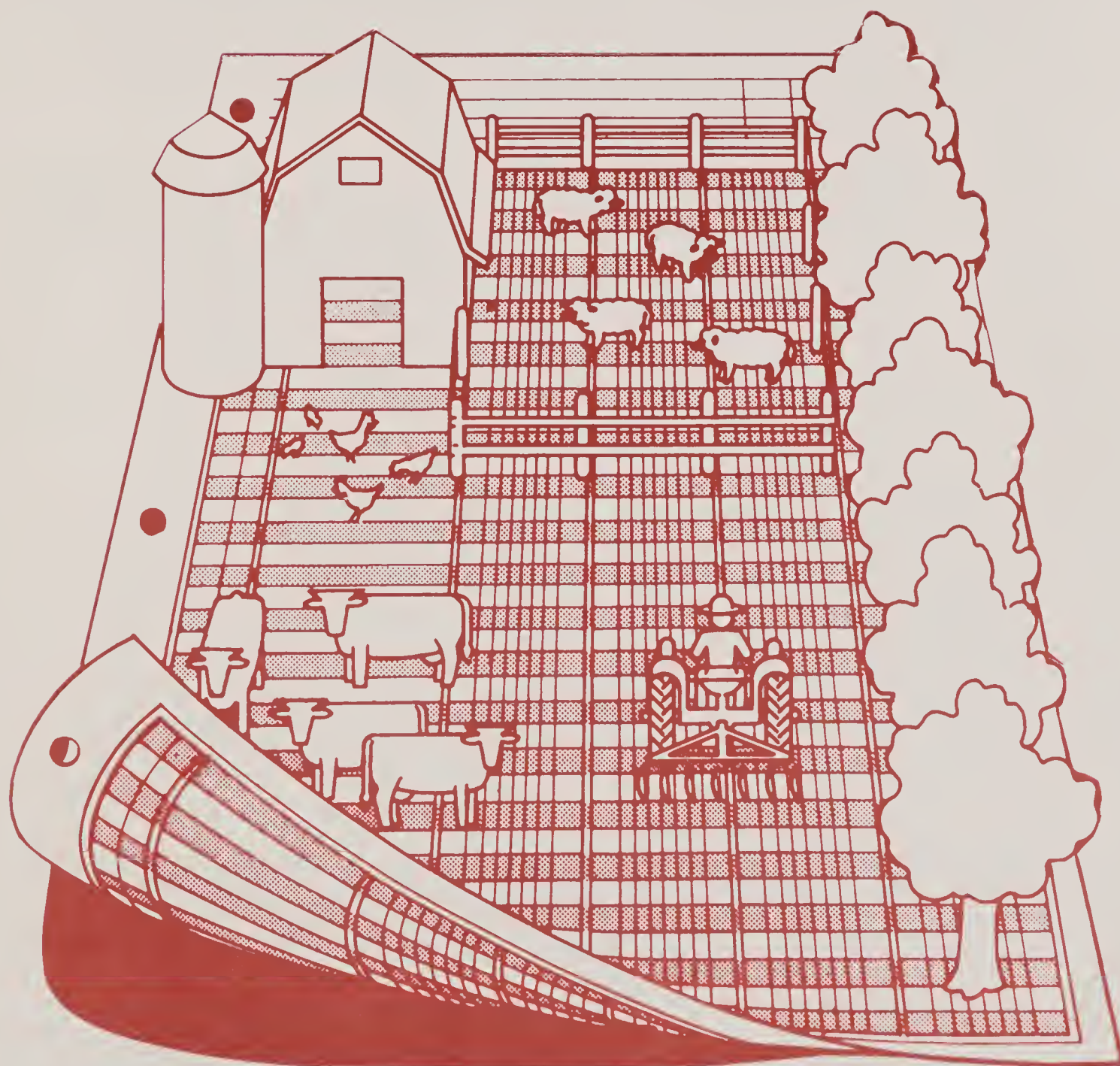


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Economic Indicators of the Farm Sector

Costs of Production, 1993— Major Field Crops and Livestock and Dairy



Costs of Production Report Moving to New Series

Since 1982, the Economic Research Service has published its costs-of-production estimates in the *Economic Indicators of the Farm Sector: Costs of Production* report. This issue of the report will be the last report published under the *Economic Indicators* name. To facilitate faster turnaround of the printing process and to provide earlier availability of the most used information, ERS will be releasing costs-of-production estimates in two new publications. Beginning September 1995, national preliminary estimates for 1994 and revised estimates for 1993 will be released in *Agricultural Income and Finance Situation and Outlook*. Regional estimates will be released later in the fall in a new publication, tentatively titled *Farm Business Economics Report*. All subscribers to the former *Economic Indicators* series will automatically be switched to this title. **No action is necessary.**

The *Farm Business Economics Report* will contain all the major sector financial indicators maintained by ERS. Besides costs of production, the report will include State and national farm income and balance sheet estimates. While only the most current 2 years of costs-of-production data will be included, ERS will still provide its entire time series on diskette as before. **Single issues of the new report will be available for sale for \$15.00. Ask for stock number ECI.**

To order, call ERS-NASS at 1-800-999-6779. VISA and MasterCard accepted.

ERS hopes that these changes in publication procedures will assist you in getting information in a more timely manner and in the format you need.

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Abstract

Average yields for major U.S. field crops in 1993 varied markedly from 1992 as weather patterns affected regional growing conditions. Cotton and wheat yields dropped by only 2-3 percent while yields fell for corn, sorghum, oats, and peanuts more than 20 percent. Although cash costs were within 5 percent of 1992 levels, low yields caused returns above cash costs to fall for major crops and cow-calf operations. Residual returns to management and risk at the U.S. level were negative for all major crops in 1993 and considerably lower than in 1992.

Keywords: Costs of production, enterprise costs and returns.

Preface

This year's *Costs of Production* contains new production practice and expenditure data from the dairy version of the 1993 Farm Costs and Returns Survey (FCRS). Cost-of-production estimates which include the direct effects of Government program participation are reported for corn, grain sorghum, rice, and barley. Cost-of-production estimates for fed cattle (which are reported in *Livestock, Dairy and Poultry Situation and Outlook Report*), are not reprinted in this publication. Cost-of-production estimates for prior years are only on the electronic data product.

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New to This Report:

This issue of *Economic Indicators of the Farm Sector: Costs of Production--Major Field Crops and Livestock and Dairy* includes costs and returns budgets for burley and flue-cured tobacco. USDA has been estimating tobacco costs and returns for many years. Last year responsibility for estimating and publishing these costs and returns was assigned to the Farm Business Economics Branch of ERS.

The reader should be aware that the methodology behind the tobacco estimates is not the same as with the other commodities. This is because until this year the tobacco estimates were designed strictly for use by USDA's Consolidated Farm Service Agency (CFSA) as part of the tobacco support program. Data were collected for use by CFSA and did not include all the information necessary to produce budgets in the format used for the other commodities. As new data are collected (burley is being surveyed for the 1995 crop), the standard format will replace the old format.

This report is smaller than previous ones because only revised 1992 and new 1993 costs and returns estimates are included, instead of our entire time series for each commodity. This shorter format will speed up the editorial process and get the costs and returns estimates into the hands of data users faster. For those data users desiring a longer time series, hard copies are available in the earlier reports, and all years, including 1992 and 1993, are available on diskette from the ERS-NASS vendor (see toll-free telephone number for ordering on the inside front cover of this report).

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Highlights

CORN. Flood conditions in major corn-producing States, particularly Iowa, Illinois, and Missouri, and drought in the East caused the average U.S. corn yield to fall about 25 percent from 1992 to 1993. Total economic costs per acre among U.S. corn growers declined by about 5 percent in 1993 due largely to lower land rents. However, average per-bushel cash and economic costs were \$1.79 and \$2.90 in 1993, up 31 and 28 percent, respectively, from 1992. Despite higher corn prices, poor yields reduced the gross value of corn production in the U.S. and in all but the Northeast region. Returns to management and risk were significantly lower in the North Central, Southeast, and Plains States, but higher in the Northeast where yields were less affected. Government programs enhanced returns to corn production much less in 1993 than in 1992 because of higher corn prices. The average U.S. deficiency payment per acre was down 55 percent in 1993. Program effects could not offset the poor growing conditions in 1993, as returns to management and risk were negative in all corn-producing regions.

GRAIN SORGHUM. Production was sharply lower in 1993 due to flooding in the Midwest. Average yields per planted acre were considerably lower than 1992. As a result, gross value of production was lower in 1993 than in 1992 and failed to cover cash costs in the Southern Plains. However, even when direct payments are included, gross value was still unable to cover cash production costs. A larger percentage of sorghum acres were enrolled in the feed grains program in 1993; more acres were enrolled in the Southern Plains than the Central Plains.

OATS. Following the high of 1992, oat yields fell by almost 25 percent in 1993 at the U.S. level. The North Central region had yields of only 47 bushels per acre in 1993, a 28-percent drop from the previous year. The highest yields were in the Northern Plains region, at 58 bushels per acre, but still well below 1992. Cash costs changed little from 1992-93 but large drops in gross value of production caused residual returns to management and risk to be more negative in 1993 than 1992.

BARLEY. U.S. average production costs for barley remained stable at \$161 per acre but varied at the regional level. Barley yields decreased by about 13 percent to 51 bushels per planted acre and harvest-month price fell to \$1.98 per bushel, resulting in a 20-percent decline in the value of the barley crop. Yields in the Northern Plains (where most of the barley is produced) decreased by 23 percent to 43 bushels per acre, while yields in the Northwest (where most barley is irrigated) increased by 20 percent to 77 bushels per acre. Total production costs ranged from \$135 in the Northern Plains to \$253 in the Northwest. The Northwest had the highest production costs because of irrigation-related expenses. Returns to management and risk were negative in all regions. However, the Northeast region had the lowest negative returns due to relatively higher grain yields and high straw value.

Government programs improved returns to barley production more in 1993 than 1992 mainly because of higher program participation and payment rates. Northern Plains and Northwest barley regions had the greatest program effects due to higher levels of producer participation.

WHEAT. Total economic costs of producing wheat in the U.S. increased less than 2 percent in 1993. However, residual returns to management and risk decreased, because the U.S. average wheat harvest-month price dropped 10 percent and average yield dropped slightly. Total variable cash expenses changed little, but fixed cash expenses increased about 17 percent (\$3.49). Average harvest-month price was up 3 percent in the Northern Plains region, but down 15 to 18 percent in the other regions. Only in the Southeast, where average price fell 16 percent and average yield dropped 15 percent in 1993, did gross value of production fail to cover total cash expenses.

SOYBEANS. U.S. cash and economic costs per acre for soybean production in 1993 changed little from 1992. However, lower yields in 1993 raised per-bushel costs. Average per-bushel cash and economic costs in 1993 were \$3.70 and \$6.71, respectively, up 22 percent from 1992. Higher soybean prices did not offset the decline in yield and the value of soybean production was down about 4 percent in 1993. Regional changes in soybean costs and returns reflected the U.S. average. Delta soybean growers experienced the greatest increase in per-bushel economic costs, up 36 percent from 1992. Returns to management and risk were negative in all production regions, and below -\$30 per planted acre in the Northern Plains and Southeast.

RICE. Total variable costs per acre, not including program participation costs, increased 2 percent at the U.S. level to \$322 per acre. Increases in California and the Gulf Coast regions offset decreases in the Arkansas non-delta and the Mississippi River Delta (MRD). Lower yields and lower prices for fuel, lubrication, and electricity and commercial drying were instrumental in bringing down costs in Arkansas and the MRD. Value of production per acre, excluding Government payments, decreased 13 percent at the U.S. level as both market prices and yields were lower than in 1992. Substantially larger decreases occurred in the Gulf Coast and Arkansas non-delta than in California and the MRD. In the Gulf Coast, both lower prices and lower yields were major factors in decreased returns. In the Arkansas non-delta, lower yields contributed the most to reduced returns.

PEANUTS. Peanut production in 1993 was at its lowest level since 1983 due to drought and excessive summer heat in the Southeast. Virginia-Carolina producers also faced dry, hot weather which reduced yields. In the Southwest, yields were cut by early frost in Texas, although yields were good in Oklahoma. While residual returns to management and risk were positive in the Southeast and Virginia-Carolina region in 1992 and negative in the Southern Plains, low yields caused residual returns to be negative across all regions with the largest losses in the Virginia-Carolina region.

COTTON. The average variable costs of producing an acre of cotton increased 3 percent between 1992 and 1993, from \$264 to \$272. Average cotton yields declined for a second year. Increases in repairs, capital replacement, and return to nonland capital costs reflected increases for 1993 in the costs of machinery and equipment used to produce cotton. Altogether, these costs increased by almost 13 percent and accounted for 51 percent of the total difference between 1992 and 1993 average economic costs, from \$420 to \$441.

TOBACCO.

BURLEY. The average variable costs of producing an acre of burley tobacco increased 2 percent between 1992 and 1993, from \$2,270 to \$2,314. Fertilizer costs decreased because of lower cost of nitrogenous materials. Total machinery and barn ownership costs increased by over 4 percent from \$471 to \$492 per acre from 1992 to 1993. Increases in prices caused machinery costs to increase and resulted in higher capital replacement costs per acre of \$255 in 1992 to \$266 in 1993.

FLUE-CURED. The average variable costs of producing an acre of flue-cured tobacco increased 3 percent between 1992 and 1993, from \$1,741 to \$1,789. Most input costs, except fertilizer, lime, and yield-related costs, increased from 1992 to 1993. Labor costs increased by more than 7 percent from \$619 to \$665 per acre from 1992 to 1993.

MILK. Cost of production estimates for 1993 were based on new survey data from the 1993 Farm Costs and Returns Survey (FCRS). The estimates were consistent with 1993 prevailing economic and weather conditions. Average farm prices for 100 pounds of milk declined about 3 percent from 1992, as demand for dairy products was generally weak. Variable costs of producing milk rose in 1993 primarily because of higher feed prices. Weather problems tightened markets for dairy-quality feed. The damage from 1993 rains and disease sharply reduced the availability of premium-quality alfalfa in a number of the top milk-producing States. The damage was particularly extensive in the Midwest, where farmers dealt with floods and wet weather. In addition, silage crops did not match 1992 levels. Premium-quality alfalfa was also scarce in the West, as the region was just getting some relief from a prolonged drought. Forage conditions also varied widely nationwide. In general, lower milk prices in combination with higher production costs led to relatively lower returns to management and risk.

COW-CALF. Total gross value of production rose 4 percent across the U.S. from 1992-93; however, cash expenses rose 8 percent at the U.S. level and 13 percent in the West. Feed costs rose by 12 percent in the West compared to 2-4 percent in the other regions. Residual returns to management and risk remained negative across all cow-calf regions with the largest increase in the West. Residual returns improved by 4 percent in the Great Plains, but were still negative.

HOGS. Cash and economic costs of U.S. hog producers in 1993 were up 14 and 10 percent, respectively, from 1992. Much of the higher costs can be attributed to higher feedgrain prices, primarily corn, due to flood conditions along the Mississippi River. Farrow-to-finish operations produced hogs with cash costs of \$42 per cwt gain and economic costs of \$58 in 1993. Cash costs were about \$77 and economic costs were \$113 per cwt gain for farrow-to-feeder pig producers. On feeder pig-to-finish operations cash costs were \$58 while economic costs were \$69 per cwt of gain. Little difference was observed between costs and returns of producers in the North and South regions. Market hog prices averaged in the mid- to upper-\$40's per cwt in 1993, up from the low-\$40's in 1992. Likewise, feeder pig prices were about \$16-\$30 per cwt higher in 1993 than in 1992. The higher hog prices increased returns to feeder pig production, but returns remained much the same for farrow-to-finish and hog finishing operations.

Economic Indicators of the Farm Sector

Costs of Production, 1993--Major Field Crops and Livestock and Dairy

1993 Production Costs and Returns

Average yields for major U.S. field crops in 1993 varied markedly from 1992 as weather patterns affected regional growing conditions. Heavy winter rain and snow ended long-term drought in California, but relentless spring and summer rains in the upper Midwest caused severe flooding in the upper Mississippi and lower Missouri river basins. Severe spring cold in the East was followed by severe summer drought in the Southeast. Cotton and wheat yields dropped slightly while yields fell more than 20 percent for corn, sorghum, oats, and peanuts. Overall, the prices paid and received indexes rose slightly from 1992-93 (figs. 1 and 2). Although cash costs were within 5 percent of 1992 levels, returns above cash costs fell for all major crops and livestock except hogs and milk (figs. 3 and 4). Residual returns to management and risk at the U.S. level were negative for all commodities in 1993.

This year's *Costs of Production* incorporates new production practice and expenditure data from the dairy version of the 1993 Farm Costs and Returns Survey (FCRS).

The Agriculture and Consumer Protection Act of 1973 and subsequent legislation require that the Department of Agriculture annually estimate costs of producing wheat, feed grains, cotton, milk, rice, peanuts, sugar beets, sugarcane, and tobacco. Regional and U.S. estimates for these commodities, except sugar beets and sugarcane, are presented in this report. Only U.S. estimates are presented for tobacco.

Although the estimates are often called budgets, they are not projections or goals, but historical estimates of costs, reflecting actual levels of input use, production practices, yields, and prices as measured by surveys of producers and suppliers. Costs include both cash expenditures and economic costs of production. *Direct payments for and costs of participation in Government programs are excluded in the base accounts. Estimates that include the direct effects of Government program participation are published in separate accounts and have been prepared for corn, grain sorghum, rice, and barley.*

Structure of Accounts

ERS cost-of-production accounts include estimates of both cash expenditures and noncash costs. Cash expenditures are incurred when factors of production are purchased or rented. Noncash costs occur when factors are owned. For example, if a farmer fully owns the land used to produce corn, he would have no expenditure for land rental or for loans to pay for the purchase of land. Yet, an economic cost arises. By owning the land and using it to grow corn, the farmer forgoes income from other uses of the land, such as renting it to another producer. Costs come about because production resources are limited and have alternative uses. If a farmer uses savings to pay for operating inputs, such as seed, fertilizer, chemicals, and fuel, and thus pays no interest on operating loans, the farmer still incurs an economic cost because the savings could have earned a return in another use. Owned inputs are not without cost.

ERS combines in a single account the production costs and returns of farm operators and landlords. If a landlord pays a share of a farmer's costs, such as fertilizer, as part of a rental agreement, then those costs are added to the operator's costs and subtracted from the rental value of the land. Land rent is not included as a *cash* expense because what is a rental expense to the farm operator is offsetting income to the landlord. An ownership cost is imputed instead to land and is included as an economic cost.

Production costs are balanced with values of production (fig. 5). Total economic costs, including returns to all factors of production, are equal to gross value of production. Crops are valued at their time of harvest while livestock and dairy are valued at annual average market prices. Marketing costs and returns are excluded for crops, but included for livestock and dairy. Costs, including such items as hauling and drying, are measured to the point of first sale or storage, but actual storage costs are excluded.

Some major field crops yield secondary crops, for example, cottonseed from cotton and straw from oats, barley, and wheat. Production costs for the secondary

Figure 1

Prices paid for agricultural inputs, 1992-93

1977=100

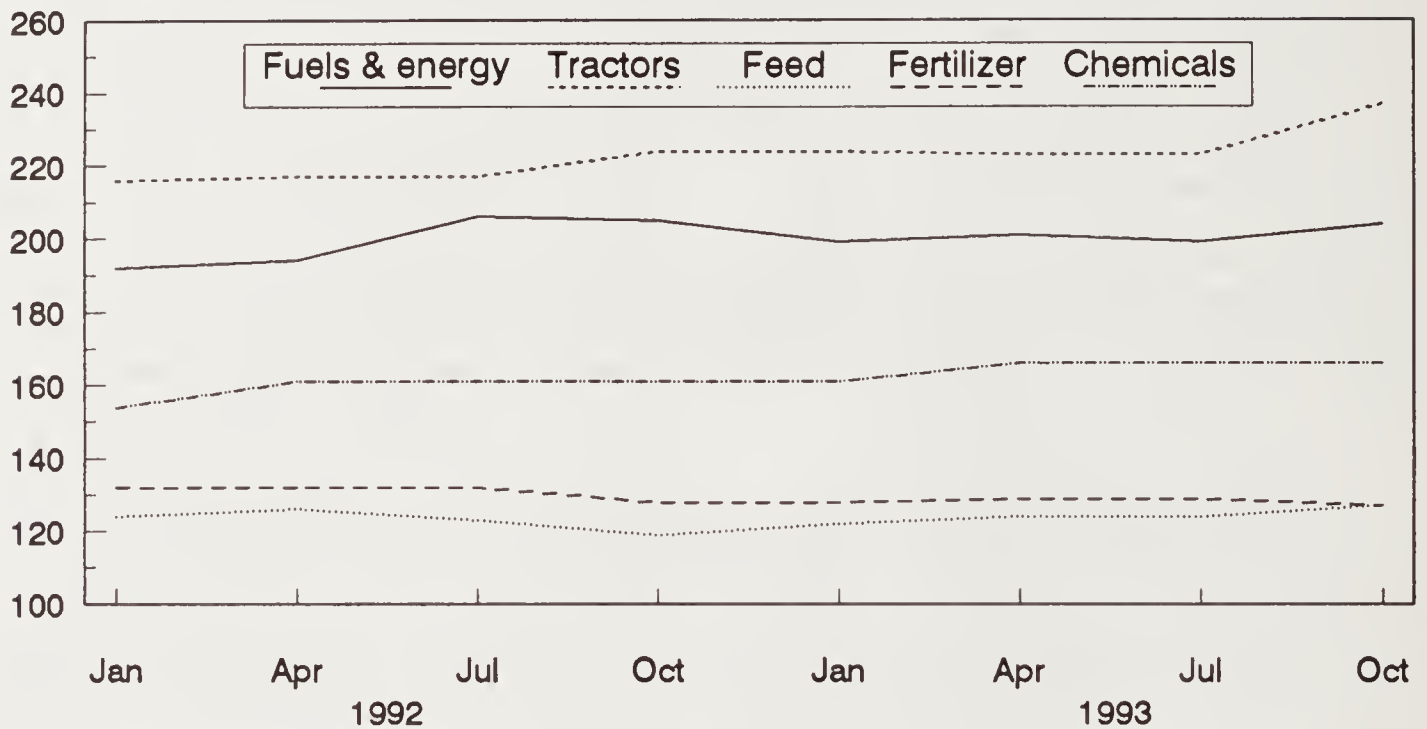


Figure 2

Prices received for agricultural products, 1992-93

1977=100

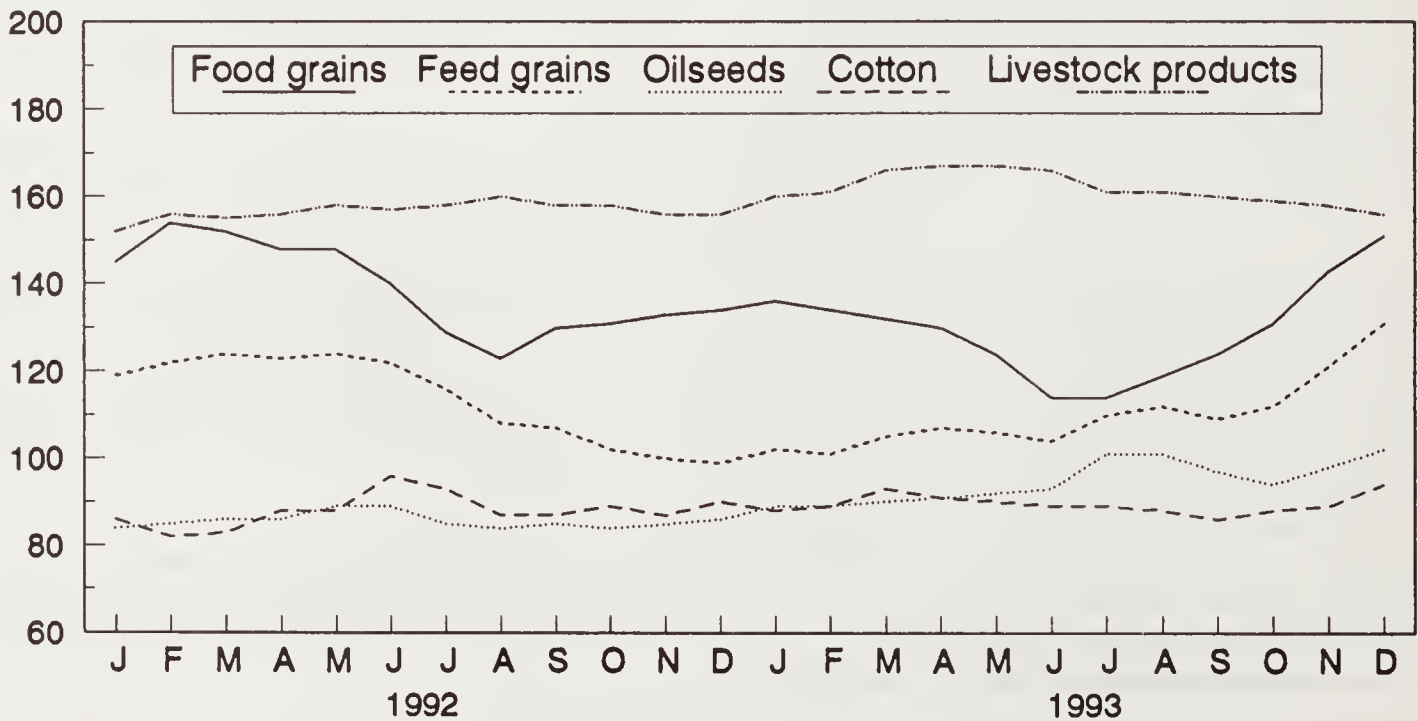
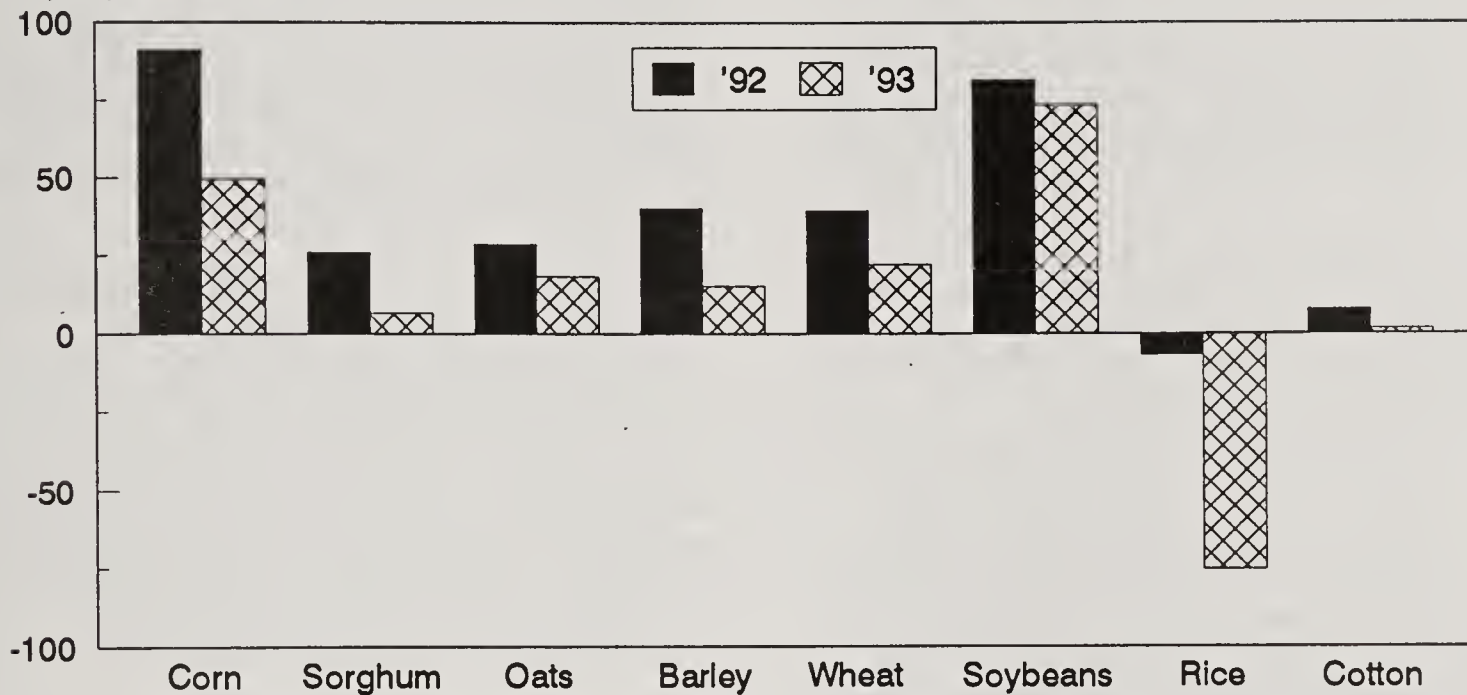


Figure 3

Returns over cash expenses

Selected crops, 1992-93 ^{1/}

\$ per planted acre



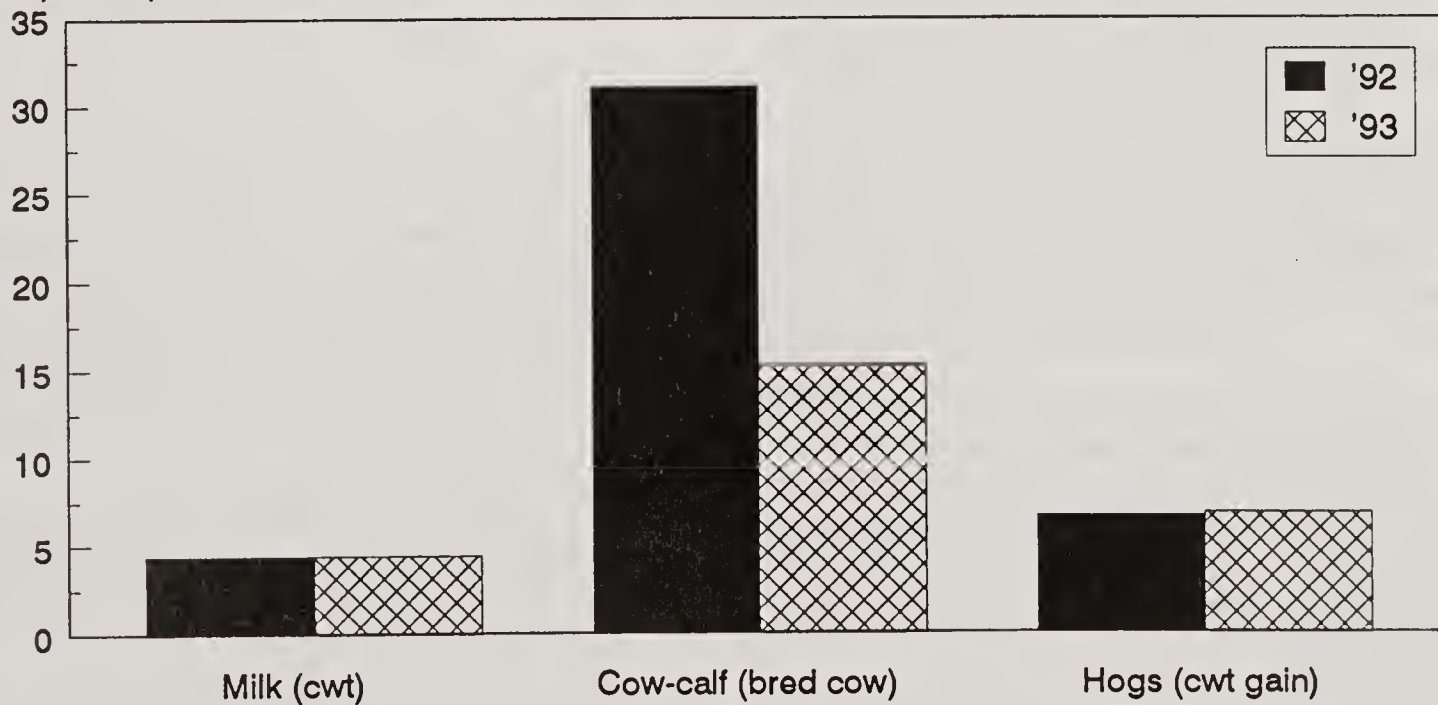
^{1/} Excludes direct Government payments.

Figure 4

Returns over cash expenses

Selected livestock products, 1992-93

\$ per output unit



crops cannot be separated from those of the major crops. Therefore, ERS includes estimates of the values of production of secondary crops in order to balance production costs with gross value of production. The value of a secondary crop, especially straw in the North Central region, can be considerable.

Livestock commodities (including milk) are valued at annual or quarterly average market prices. The total returns category includes receipts from both primary and secondary products of livestock production. Examples of secondary products would be cull dairy cows and dairy calves.

Gross value of production minus cash expenses is a short-term return to production and measures the amount of cash that would be left to cover longer term costs, such as machinery replacement or debt retirement.

ERS prepares crop production cost estimates on a per-planted-acre basis. Costs are included only for acreage that was planted with the intention of being harvested for grain. Excluded are corn and sorghum silage and small grains planted only as cover crops or for grazing. Costs are included for production that is abandoned because of crop damage. On double-cropped acreage (two crops on

the same land in the same growing season), land costs are divided between the two crops. For crops that are planted following a fallow season, 2 years of land costs are counted.

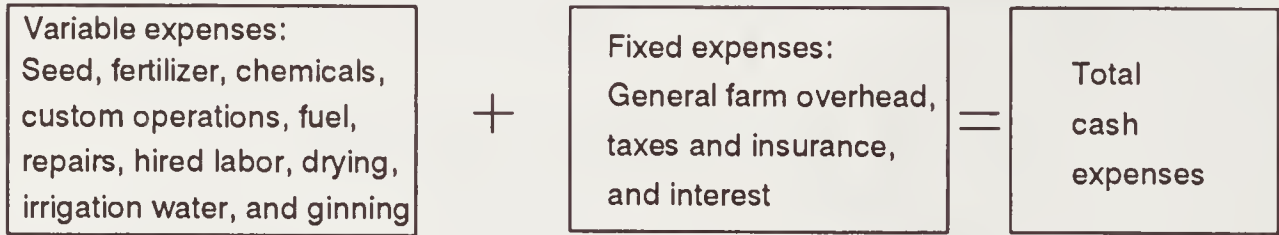
Cow-calf cost estimates are reported on a per-head basis, while milk cost estimates are reported on a per-hundredweight-sold basis. Cost accounts are presented for all hog producers and the various types of hog enterprises. Estimates for all hog producers include farrow-to-finish, farrow-to-feeder pig, feeder pig-to-finish, and all other hog operations. Hog enterprise cost estimates are reported on a per-hundredweight-of-gain basis.

Most commodities are produced on farms which have multiple production or service enterprises; farm machinery, equipment, buildings, and their costs are shared by the various enterprises on the farm. ERS allocates machinery operating costs and capital replacement costs to a particular commodity enterprise based on estimates of hours that the machine is used on that commodity relative to total hours of annual use. General farm overhead expenses and interest payments are allocated to an individual enterprise based on the commodity share of gross value of production.

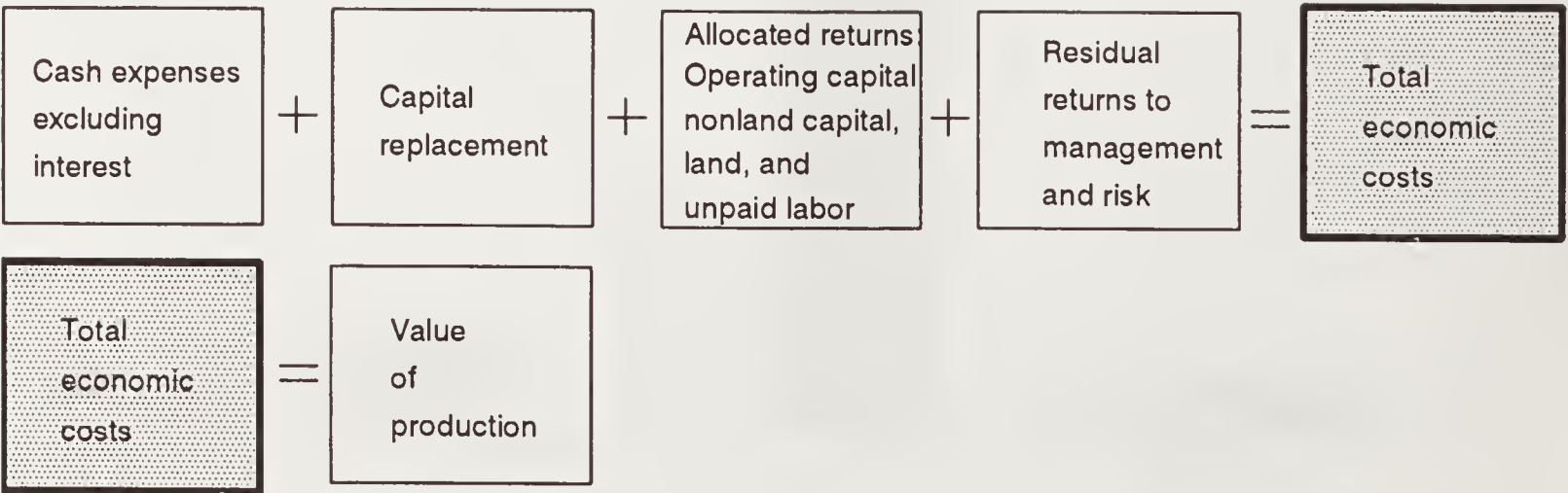
Figure 5

Structure of accounts

Cash costs



Economic costs



Government Programs and Costs of Production

The Government operates deficiency payment programs for corn, grain sorghum, barley, oats, wheat, rice, and upland cotton. Farmers and landlords, if they participate in the programs, may receive *direct payments* based on proven yields. Payment rates are calculated as the lesser of either the difference between the CCC loan rate and the Government-established target price or the market price and the target price. A participant may be required to idle acreage that would have been planted to the crop in return for direct payments on the remaining acreage.

Participants may also be required to incur costs by maintaining a cover crop or controlling weeds on the idled acreage. ERS prepares COP estimates excluding Government participation costs and direct payments for all commodities. In addition, this report contains COP estimates for corn, grain sorghum, barley and rice that include direct Government payments and program participation costs. The estimates including direct effects of Government programs add costs and returns associated with both planted acreage and acreage idled by program participants. Cost and return components that change when program effects are accounted for are denoted in figure 6.

Government commodity programs most prominently affect ERS cost-of-production accounts by affecting commodity prices. ERS allocates some whole-farm expenses and calculates share rental costs and residual returns to management and risk from commodity prices. The market prices that ERS uses can be influenced by Government nonrecourse loan and marketing loan programs. Thus, effects of these programs on prices are included in the cost-of-production estimates. Direct Government payments and participation costs in farm income support programs, however, are generally excluded.

The Government's Commodity Credit Corporation (CCC) operates nonrecourse loan programs for corn, grain sorghum, barley, oats, wheat, rice, soybeans, peanuts, and upland cotton. The programs enable producers to use a crop as collateral for a nonrecourse loan. Producers may either repay the loan and sell the crop on the market or forfeit the crop to the CCC at no cost other than storage. Prices are supported as crops are temporarily removed from the market.

Marketing loan programs, which operate for rice and cotton, allow prices to fall below CCC loan rates. Participants can repay loans at either the loan rate or the world price, whichever is lower. Proceeds from

marketing loans, that is, the difference between the world price and the nonrecourse loan rate, are included only in the rice estimates that incorporate direct Government payments.

For tobacco there are marketing quota and price support programs. The quota base is annually adjusted for individual quota holders based on their share of the U.S. marketing quota. Price supports are determined by a market price-cost index formula. The price support program is administered by producer-owned cooperative associations acting under annual loan agreements with the Commodity Credit Corporation (CCC). However, tobacco producers also are assessed No-Net-Cost charges by the Government which are paid into a CCC account to cover potential losses in operating the price support program from the riskiness of the secured loans and assure that program costs, except administrative costs, are borne by growers and purchasers. In addition, marketing fees of one percent of the national loan rate are assessed on growers and purchasers (1/2 percent on each).

Milk prices are supported through direct market intervention by Commodity Credit Corporation purchases of manufactured dairy products (butter, cheese, and nonfat dry milk). The Government also affects prices for milk and meat by limiting the quantity of milk and meat imports. In addition, the Government assists producers in emergencies caused by natural disasters.

Gross Value of Production

ERS crop enterprise accounts begin with estimates of value of production per acre for each crop. Gross value of production is defined as the value of the primary and secondary crops at the time of harvest. One set of estimates exclude deficiency payments, paid land diversions, and marketing loan proceeds from gross value of production. Also excluded are income from crop insurance indemnities and disaster assistance payments. An additional set of estimates for corn, grain sorghum, barley, and rice includes deficiency payments and marketing loan proceeds. Deficiency payments on 0/92 and 50/92 acreage are included. There were no marketing loans for corn, sorghum, and barley.

The gross value of production for livestock commodities includes the value of primary and secondary products, as well as any other related sources of income to the enterprise. Any direct Government program benefits are excluded from receipts. To ensure consistency between costs and returns, income from cooperative memberships,

Figure 6

Budget line items affected by Government program participation 1/

Table A--Program commodity production cash costs and returns

=====	
Gross value of production:	
Market value of primary crop	
Market value of secondary crop	
* Deficiency payments	
* Marketing loan proceeds	
* Haying/grazing on set-aside acreage	
* Total, gross value of production	
Cash expenses:	
Seed	
Fertilizer, lime, and gypsum	
* Chemicals 2/	
Custom operations 3/	
* Fuel, lube, and electricity	
* Repairs	
* Hired labor	
Drying	
* Other variable cash expenses 4/	
* Total, variable cash expenses	
* General farm overhead	
* Taxes and insurance	
* Interest	
* Total, fixed cash expenses	
* Total, cash expenses	
* Gross value of production less cash expenses	
=====	
Harvest-period price (dollars/bu.)	
Yield (bu./planted acre)	
=====	

Table B--Program commodity production economic costs and returns

=====	
Gross value of production:	
Market value of primary crop	
Market value of secondary crop	
* Deficiency payments	
* Marketing loan proceeds	
* Haying/grazing on set-aside acreage	
* Total, gross value of production	
Economic (full ownership) costs:	
* Variable cash expenses	
* General farm overhead	
* Taxes and insurance	
* Capital replacement	
* Operating capital	
* Other nonland capital	
* Land	
* Unpaid labor	
* Total, economic costs	
* Residual returns to management and risk	
=====	
Harvest-period price (dollars/bu.)	
Yield (bu./planted acre)	
=====	

1/ Asterisk (*) indicates line item generally adjusted for Government program participation. 2/ May include custom and self-applied chemicals on Government program conserving-use acres. 3/ Cost of custom operations and technical services. 4/ May include cost of purchased irrigation water and cover crop seed on set-aside acres.

the value of manure production, and any other income derived from livestock enterprise assets are added to gross value of production (and reported as "other income") when expenses for these items are not separable from other farm enterprise expenses.

Variable and Fixed Cash Expenses

Cash expenses represent the amount of money spent during the production process, beginning with the first expense incurred after harvesting the preceding crop and including expenses on fallow ground. Variable cash expenses associated with crop production include seed, fertilizer, chemicals, custom operations, hired labor, fuel, repairs, purchased irrigation water, drying, cotton ginning, and technical services, such as insect scouting and soil testing. For livestock and milk production the major variable expense items are feed, energy, machinery and building repairs, and labor. Variable cash expenses depend upon production practices as well as quantities and prices of inputs used.

Fixed cash expenses include real estate and property taxes, insurance, general farm overhead, and interest paid on operating loans and real estate loans. Items considered general farm overhead may vary between crop and livestock enterprises, but generally represent factors of production whose services are utilized but are not directly attributable to any single production activity on the farm. Some examples of general farm overhead include legal fees, magazine subscriptions, farm utilities, and other general business expenses. Fixed cash expenses, which are difficult to assign directly to a specific enterprise on a farm, are allocated to each commodity based on its relative share of the total value of farm production.

Economic (Full-Ownership) Costs

Economic costs are long-term costs that account for all production inputs, without regard to the ownership or equity positions of farm operators. Economic costs include both variable and fixed cash expenses (except cash interest payments), capital replacement, imputed costs of land, unpaid labor, capital invested in production inputs and machinery, and residual returns to management and risk. Cash expenses are valued by market prices or by expenditures reported by farmers. Opportunity costs (noncash) are measured from values of capital, land, and unpaid labor in alternative uses. Opportunity costs are called allocated returns to owned inputs, in accord with the full-ownership definition.

Capital replacement. Capital replacement is the portion of the value of machinery and equipment, in addition to repairs, that is used up in the production process. It is based on the current value of the machinery, and may be regarded as a discretionary expense in any particular year. It may be deferred when income is low but ultimately must be paid to maintain the capital stock.

Operating and other nonland capital. The cost of, or the return to, operating capital is the cost of carrying input expenses from the time they are used until harvest. ERS measures the return to operating capital at the annual average rate on 6-month U.S. Treasury bills. The return to other nonland capital is the cost of having capital invested in farm machinery and equipment. ERS calculates this cost as equal to the longrun rate of return to agricultural production assets.

Land. Cropland is a specialized input. Its value depends on the value of the crops that it produces, which is reflected in share and cash rental costs. Because an alternative use for land for any one landowner is to rent it to someone who will produce the same crop, ERS values land in the cost-of-production accounts at its rental value. The land rental rates for each crop are composite share and cash rental rates. ERS calculates the share rental value directly from the actual yield and price of the crop. Cash rental rates, which are fixed at the outset of production, presumably reflect expectations about crop yields and prices. The net land rent (gross rent minus real estate taxes and the value of inputs supplied by landlords and adjusted for double-cropping and fallow rotation) is applied to all acreage, regardless of whether it is owned or rented by the farm operator.

Government commodity programs, which support crop prices and make payments to farm operators and landlords based on yields, affect the costs of land. When ERS excludes direct Government payments from gross value of production, it also excludes the payments from the share rent. Including the payments increases the share rental charge when the crop's market price is below the direct Government payment level.

Land cost for the livestock enterprises includes a charge only on land used for building sites, manure storage, corrals, and lots. A cash rental rate is used to value this land. Land used to produce livestock feed, such as corn, forage, or pasture, is not included in the land cost, but rather its feed value is included as a variable cost.

Unpaid labor. Labor costs are divided between hired and unpaid labor depending upon whether a cash wage is paid. ERS counts hired labor as a variable cash expense and imputes a value to unpaid labor based on estimated hours worked and average agricultural wage rates. Unpaid labor is included as a noncash cost. Additional value of labor, such as for managerial and entrepreneurial skill, is reflected in residual returns.

Residual Returns to Management and Risk

The difference between gross value of production and the total of cash expenses (except interest), allocated returns to operating capital, other nonland capital, land, and unpaid labor is residual returns to management and risk. Returns to management are expected to be positive, though their level is not known. Because of variability in weather and commodity prices, which are beyond a farmer's control, returns to risk in any particular year may be positive or negative. Over time, however, they should average zero. Combined returns to management and risk, therefore, are expected to be positive.

For some commodities, the average returns to production management and risk shown in ERS accounts have been consistently negative in recent years. Because direct Government payments are excluded from the accounts, the estimated gross value of production may be less than what farmers actually receive. Although costs, particularly for land, would also increase if direct Government payments were included, residual returns may be greater than shown. Net returns to marketing a crop beyond production may also be positive.

Data Sources

The primary data source for annual cost-of-production estimates is the Farm Costs and Returns Survey (FCRS). It is supplemented with price and production data from other sources, mainly *Agricultural Prices* (5) and *Crop Production* (6). Seed, fertilizer, and machinery operating costs are generally derived from producers' descriptions of inputs, field operations, and machinery used on a particular commodity and from input price and machinery performance data. Other variable cash expenses and fixed cash expenses come from producers' estimates of these expenditures (3). Livestock building and equipment values are derived from producers' descriptions of those used, along with annual building cost guides (8).

ERS calculates cost-of-production estimates using farm-level estimation procedures. Commodity specific models have been developed for corn, grain sorghum, oats, barley, wheat, soybean, rice, peanuts, cotton, milk, cow-calf, hog, and dairy commodities. A farm-level model calculates production costs for each farm in the FCRS and then aggregates the costs to produce regional and U.S. estimates. The farm-level approach to cost estimation allows greater differentiation in costs between farms and more detailed analysis of cost-of-production information.

Farm Costs and Returns Survey

The FCRS is conducted annually by ERS and NASS. Each year, there are multiple versions of the FCRS: an indepth whole-farm version and commodity cost-of-production versions. All versions have common questions about whole-farm expenses and income. Each costs-of-production version gathers more detailed information about input use, field operations, and production costs of a particular commodity.

The FCRS is a multiframe stratified survey. The sample is drawn from stratified list and area frames. For a particular cost-of-production version, the list frame is made up of farms known to have produced the commodity previously. The list frame is stratified by size. The area frame is made up of land segments, stratified by land use. Each sampled farm represents a number of similar farms, the particular number being the survey expansion factor, which is the inverse of the probability of the sampled farm being selected. Data are expanded by the survey expansion factors to produce estimates for the population of all farms producing the commodity.

Farmers are interviewed in person by field enumerators using questionnaires developed by NASS and ERS. The FCRS takes place during February and March, with questions being asked about production in the previous year.

FCRS base years. Because of survey costs, USDA cannot undertake detailed cost-of-production surveys of every major commodity in every year. Instead, the FCRS covers each commodity in detail about every 4 to 6 years. ERS updates the FCRS-based costs from other data sources in nonsurvey years.

The estimates in this report are derived from the following surveys:

Commodity	Year of survey
Corn	1991
Grain sorghum	1990
Oats	1988
Barley	1992
Wheat	1989
Soybeans	1990
Rice	1992
Peanuts	1991
Cotton	1991
Burley tobacco	1989
Flue-cured tobacco	1991
Dairy	1993
Cow-calf	1990
Hogs	1992

because any randomly chosen sample may not exactly match the population of all farms: the values of data items can differ from farm to farm and only some of the farms are selected in a sample.

Chemical costs per acre, an item that is measured solely from the FCRS, had sampling errors of about 4 percent for the U.S. corn, wheat, and soybean estimates. This means that there is a 95-percent probability that the FCRS estimates are within about 8 percent of the "true" costs.

Survey data may also contain nonsampling errors, such as misstating of questions by enumerators and inability or unwillingness of respondents to give accurate answers. Nonsampling errors are controlled in the FCRS by designing and pretesting questions so that they can be answered easily and accurately from farm records, by training and supervising enumerators who are familiar with farming in the surveyed areas, and by reviewing data for consistency.

Statistical precision. The FCRS, like other surveys, is not a complete enumeration of all farms. A sample is chosen to represent all farms producing a particular commodity. There are many possible samples, each of which can yield different estimates even if the same questionnaires, instructions, and enumerators are used.

Sampling error is controlled in the FCRS by the sample size and by carefully grouping or stratifying similar farms before samples of each group or stratum are drawn. By measuring the differences in a data item within the groups, ERS measures FCRS sampling errors, an indication of how far the value in the sample may be from the "true" value for all farms.

The variation in estimates that comes simply from different possible samples is called sampling error. Sampling "error" is not the result of mistakes. It arises

References

1. U.S. Department of Agriculture, Economic Research Service. *Major Statistical Series of the U.S. Department of Agriculture: Costs of Production*. Agricultural Handbook No. 671, Vol. 12. March 1992.
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3. _____. *Economic Indicators of the Farm Sector: Costs of Production--Major Field Crops & Livestock and Dairy, 1992*. ECIFS 12-3. August 1994.
4. _____. *Economic Indicators of the Farm Sector: National Financial Summary, Annual*. ECIFS 12-1. January 1994.
5. U.S. Department of Agriculture, National Agricultural Statistics Service. *Agricultural Prices*. Annual summaries.
6. _____. *Crop Production*. Annual summaries.
7. _____. *Farm Labor*. Selected issues.
8. *Agricultural Building Cost Guide*. Boeckh. American Appraisal Association. Various issues

DESCRIPTION OF REGIONS BY COMMODITY

CORN:

NORTHEAST: New York and Pennsylvania

SOUTHEAST: Georgia, Kentucky, Louisiana and North Carolina

NORTH CENTRAL: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio and Wisconsin

PLAIN STATES: Colorado, Kansas, Nebraska, South Dakota and Texas

GRAIN SORGHUM:

CENTRAL PLAINS: Colorado, Kansas, Illinois, Missouri, Nebraska and South Dakota

SOUTHERN PLAINS: Arkansas, New Mexico, Oklahoma and Texas

OATS:

NORTHEAST: New York and Pennsylvania

NORTH CENTRAL: Illinois, Iowa, Michigan, Minnesota, Ohio and Wisconsin

NORTHERN PLAINS: Kansas, Nebraska, North Dakota and South Dakota

BARLEY:

NORTHEAST: Maryland, Pennsylvania and Virginia

NORTHERN PLAINS: Minnesota, Montana, North Dakota, South Dakota and Wyoming

NORTHWEST: Idaho, Oregon and Washington

SOUTHWEST: California, Colorado and Utah

WHEAT:

NORTH CENTRAL: Illinois, Indiana, Missouri, New York, Ohio and Pennsylvania

SOUTHEAST: Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Virginia

NORTHERN PLAINS: Minnesota, Montana, North Dakota, South Dakota and Wyoming

CENTRAL and SOUTHERN PLAINS: Colorado, Kansas, Nebraska, Oklahoma and Texas

PACIFIC: Arizona, California, Idaho, New Mexico, Oregon and Washington

SOYBEANS:

NORTH CENTRAL: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri and Ohio

NORTHERN PLAINS: Kansas, Nebraska, North Dakota and South Dakota,

SOUTHEAST: Alabama, Georgia, Kentucky, North Carolina, South Carolina and Tennessee

DELTA: Arkansas, Louisiana and Mississippi

RICE:

Arkansas (Non-delta): Grand Prairie Counties

California: Sacramento Valley

Gulf Coast: Bayou Prairies of Louisiana and North Gulf Coast of Texas

Mississippi River Delta: River Counties of Arkansas, Louisiana and Mississippi

PEANUTS:

North Carolina and Virginia

SOUTHEAST: Alabama, Florida and Georgia

SOUTHERN PLAINS: Oklahoma and Texas

COTTON:

SOUTHEAST: Alabama, Georgia, North Carolina and South Carolina

DELTA: Missouri, Arkansas, Louisiana, Mississippi and Tennessee

SOUTHERN PLAINS: Oklahoma and Texas

SOUTHWEST: Arizona and California

TOBACCO:

FLUE-CURED: Georgia, North Carolina, South Carolina and Virginia

BURLEY: Kentucky and Tennessee

MILK:

NORTHEAST: 1992 - Maine, Massachusetts, New Hampshire, New York, Pennsylvania and Vermont. 1993 - New York, Pennsylvania and Vermont

APPALACHIA: 1992 - Kentucky, North Carolina, Tennessee and Virginia. Not surveyed in 1993

SOUTHEAST: Florida and Georgia

UPPER MIDWEST: 1992 - Michigan, Minnesota, South Dakota and Wisconsin. South Dakota not surveyed in 1993.

CORN BELT: 1992 - Illinois, Indiana, Iowa, Missouri and Ohio. 1993 - Iowa, Missouri and Ohio

SOUTHERN PLAINS: Texas

PACIFIC: 1992 - Arizona, California, Idaho and Washington. 1993 - Idaho not surveyed.

COW-CALF:

NORTH CENTRAL: Illinois, Indiana, Iowa, Minnesota, Missouri and Ohio

SOUTH: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Tennessee and Virginia

GREAT PLAINS: Kansas, Nebraska, North Dakota, Oklahoma, South Dakota and Texas

WEST: California, Colorado, Idaho, Montana, New Mexico, Oregon, Utah, Washington and Wyoming

HOGS:

NORTH: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota and Wisconsin

SOUTH: Alabama, Arkansas, Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Texas and Virginia

Figure 7

Corn production regions

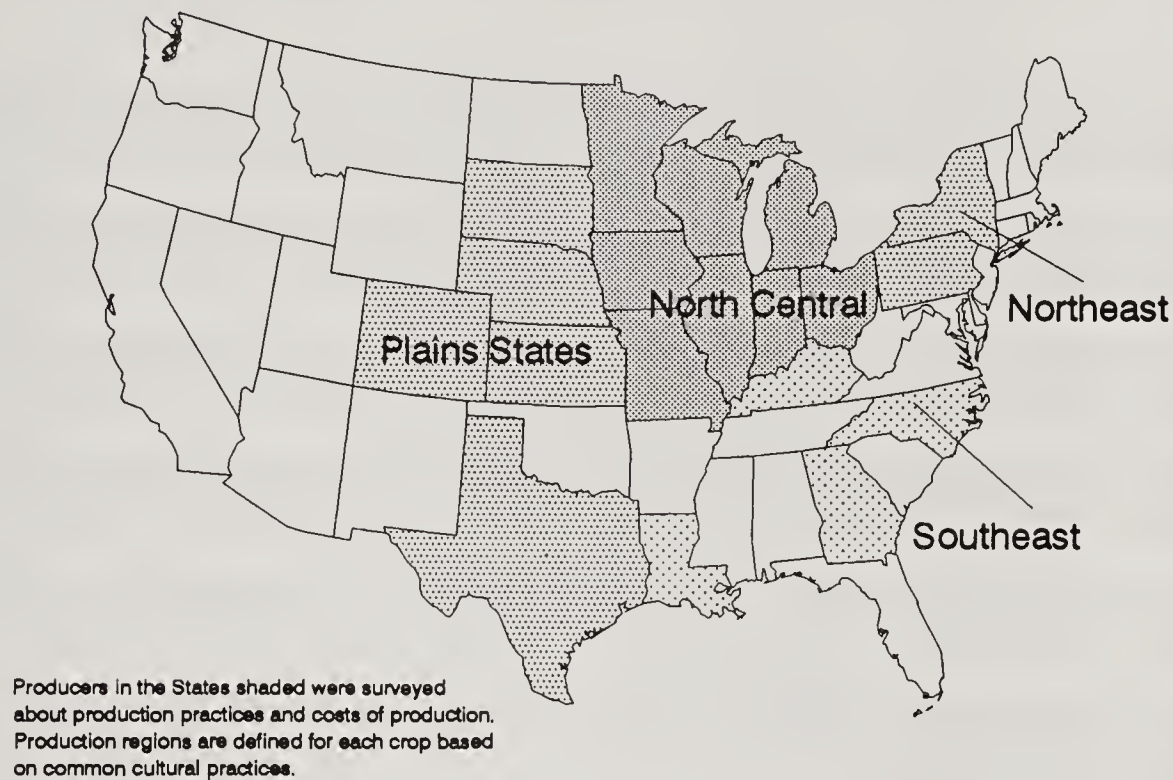
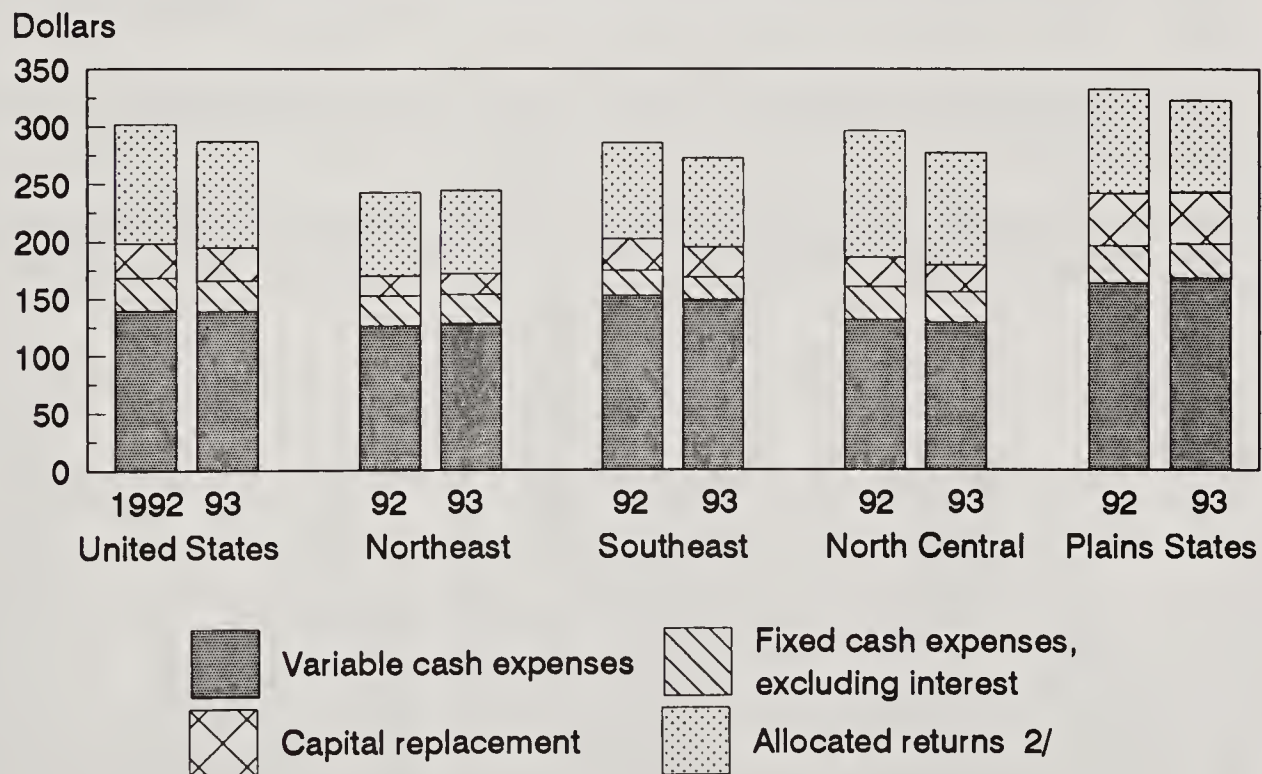


Figure 8

Corn economic costs per planted acre, 1992-93 ^{1/}



^{1/} Excluding government payments. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to corn production rather than some other income-producing use.

Table 1A--Corn production cash costs and returns, 1992-93

Item	United States		Northeast		Southeast		North Central		Plains States	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Corn	274.33	227.36	173.60	195.69	255.33	203.17	272.90	218.95	300.73	260.34
Total, gross value of production	274.33	227.36	173.60	195.69	255.33	203.17	272.90	218.95	300.73	260.34
Cash expenses:										
Seed	22.10	22.49	21.79	21.60	18.90	19.84	21.96	22.38	23.25	23.46
Fertilizer, lime, and gypsum	43.16	43.26	37.76	37.36	55.17	52.47	43.55	43.47	40.08	41.63
Chemicals	23.46	24.27	21.23	23.91	25.47	26.83	23.91	24.63	21.94	22.82
Custom operations 1/	9.54	8.97	8.94	9.14	3.92	3.60	9.18	8.27	11.96	11.99
Fuel, lube, and electricity	18.29	18.02	11.50	11.34	14.75	13.10	12.65	11.05	37.26	39.66
Repairs	14.83	13.95	11.67	12.06	17.72	16.83	13.87	12.74	17.57	17.05
Hired labor	7.74	7.55	13.18	12.63	16.11	15.98	6.29	6.05	9.57	9.42
Other variable cash expenses 2/	0.40	0.43	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.77
Total, variable cash expenses	139.52	138.94	126.07	128.04	152.04	148.65	131.41	128.59	163.38	167.80
General farm overhead	10.58	8.98	5.52	4.63	9.57	8.00	9.84	8.32	13.78	11.64
Taxes and insurance	18.41	18.11	20.62	20.86	12.72	12.14	18.47	18.22	19.14	18.61
Interest	14.74	11.86	2.66	2.08	7.29	5.98	13.65	10.90	21.38	17.09
Total, fixed cash expenses	43.73	38.95	28.80	27.57	29.58	26.12	41.96	37.44	54.30	47.34
Total, cash expenses	183.25	177.89	154.87	155.61	181.62	174.77	173.37	166.03	217.68	215.14
Gross value of production less cash expenses	91.08	49.47	18.73	40.08	73.71	28.40	99.53	52.92	83.05	45.20
Harvest-period price (dollars/bu.)	2.05	2.29	2.29	2.70	2.26	2.41	2.01	2.26	2.14	2.33
Yield (bu./planted acre)	133.82	99.15	75.81	72.59	112.98	84.23	135.77	97.07	140.53	111.67

Table 1B--Corn production economic costs and returns, 1992-93

Item	United States		Northeast		Southeast		North Central		Plains States	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Corn	274.33	227.36	173.60	195.69	255.33	203.17	272.90	218.95	300.73	260.34
Total, gross value of production	274.33	227.36	173.60	195.69	255.33	203.17	272.90	218.95	300.73	260.34
Economic (full ownership) costs:										
Variable cash expenses	139.52	138.94	126.07	128.04	152.04	148.65	131.41	128.59	163.38	167.80
General farm overhead	10.58	8.98	5.52	4.63	9.57	8.00	9.84	8.32	13.78	11.64
Taxes and insurance	18.41	18.11	20.62	20.86	12.72	12.14	18.47	18.22	19.14	18.61
Capital replacement	30.19	28.70	17.60	18.20	27.60	26.11	25.86	23.70	45.76	44.81
Operating capital	2.49	2.17	2.25	2.00	2.72	2.32	2.35	2.01	2.92	2.62
Other nonland capital	11.86	11.20	9.47	9.78	10.79	10.13	10.51	9.58	16.56	16.19
Land	64.29	54.89	29.79	30.73	49.61	45.08	71.89	61.92	49.10	40.24
Unpaid labor	24.99	24.11	31.48	30.40	20.63	20.16	25.93	25.09	22.15	21.27
Total, economic costs	302.33	287.10	242.80	244.64	285.68	272.59	296.26	277.43	332.79	323.18
Residual returns to management and risk	-28.00	-59.74	-69.20	-48.95	-30.35	-69.42	-23.36	-58.48	-32.06	-62.84
Harvest-period price (dollars/bu.)	2.05	2.29	2.29	2.70	2.26	2.41	2.01	2.26	2.14	2.33
Yield (bu./planted acre)	133.82	99.15	75.81	72.59	112.98	84.23	135.77	97.07	140.53	111.67

1/ Cost of custom operations, technical services and commercial drying. 2/ Cost of purchased irrigation water.

Table 1C--U.S. corn production cash costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States		Northeast		Southeast		North Central		Plains States	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (including direct Government payments):										
Market value of corn grain	274.33	227.36	173.60	195.69	255.33	203.17	272.90	218.95	300.73	260.34
Direct government payments 1/	48.30	21.97	20.42	10.67	28.36	17.11	50.75	23.32	49.06	20.65
Haying/grazing on ACR and CU acreage	0.32	0.71	0.23	0.37	0.34	0.47	0.22	0.52	0.62	1.33
Total, gross value of production	322.95	250.04	194.25	206.73	284.03	220.75	323.87	242.79	350.41	282.32
Cash expenses:										
Seed	22.10	22.49	21.79	21.60	18.90	19.84	21.96	22.38	23.25	23.46
Fertilizer, lime, and gypsum	43.16	43.26	37.76	37.36	55.17	52.47	43.55	43.47	40.08	41.63
Chemicals	23.53	24.46	21.23	23.91	25.49	26.89	23.96	24.74	22.10	23.25
Custom operations 2/	9.54	8.97	8.94	9.14	3.92	3.60	9.18	8.27	11.96	11.99
Fuel, lube, and electricity	18.49	18.52	11.59	11.48	14.85	13.25	12.82	11.53	37.56	40.31
Repairs	14.89	14.10	11.73	12.18	17.82	17.01	13.92	12.89	17.64	17.21
Hired labor	7.79	7.66	13.22	12.69	16.17	16.06	6.32	6.14	9.67	9.60
Other variable cash expenses 3/	0.83	1.45	0.46	0.77	0.41	0.62	0.37	1.02	2.36	2.91
Total, variable cash expenses	140.33	140.91	126.72	129.13	152.73	149.74	132.08	130.44	164.62	170.36
General farm overhead	11.81	9.62	6.83	5.51	10.52	8.50	11.22	9.12	14.60	11.84
Taxes and insurance	19.67	20.08	22.33	23.43	14.59	14.46	19.72	20.27	20.27	20.22
Interest	16.14	12.47	3.72	2.80	7.95	6.28	15.26	11.72	22.36	17.17
Total, fixed cash expenses	47.62	42.17	32.88	31.74	33.06	29.24	46.20	41.11	57.23	49.23
Total, cash expenses	187.95	183.08	159.60	160.87	185.79	178.98	178.28	171.55	221.85	219.59
Gross value of production less cash expenses	135.00	66.96	34.65	45.86	98.24	41.77	145.59	71.24	128.56	62.73
Harvest-period price (dollars/bu.)	2.05	2.29	2.29	2.70	2.26	2.41	2.01	2.26	2.14	2.33
Yield (bu./planted acre)	133.82	99.15	75.81	72.59	112.98	84.23	135.77	97.07	140.53	111.67
Percent of planted corn acres in program	67	70	30	31	41	47	69	73	73	72

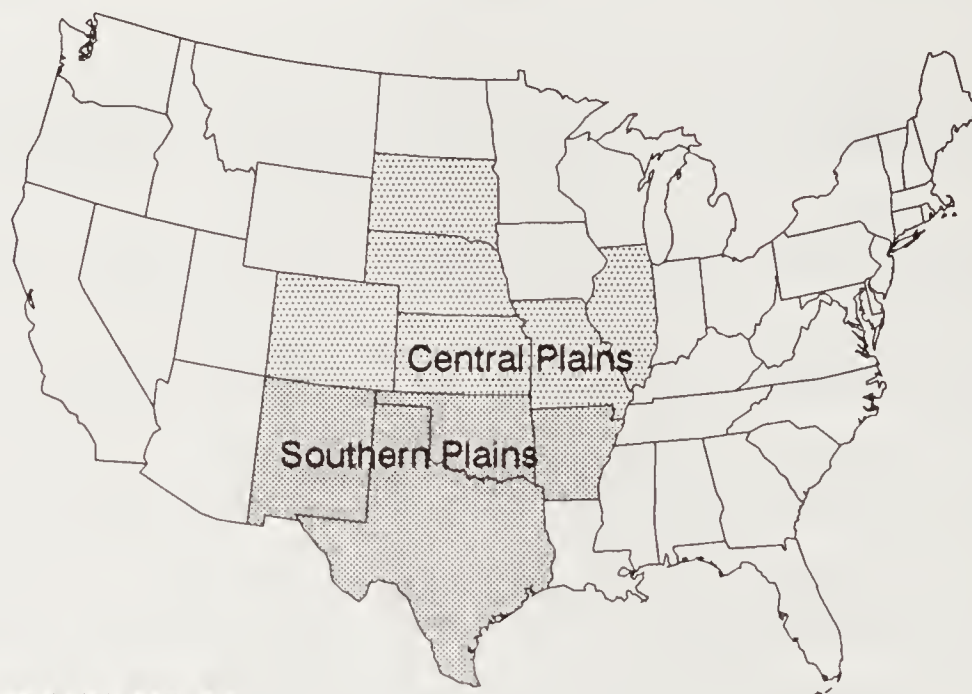
Table 1D--U.S. corn production cash costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States		Northeast		Southeast		North Central		Plains States	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (including direct Government payments):										
Market value of corn grain	274.33	227.36	173.60	195.69	255.33	203.17	272.90	218.95	300.73	260.34
Direct government payments 1/	48.30	21.97	20.42	10.67	28.36	17.11	50.75	23.32	49.06	20.65
Haying/grazing on ACR and CU acreage	0.32	0.71	0.23	0.37	0.34	0.47	0.22	0.52	0.62	1.33
Total, gross value of production	322.95	250.04	194.25	206.73	284.03	220.75	323.87	242.79	350.41	282.32
Economic (full ownership) costs:										
Variable cash expenses	140.33	140.91	126.72	129.13	152.73	149.74	132.08	130.44	164.62	170.36
General farm overhead	11.81	9.62	6.83	5.51	10.52	8.50	11.22	9.12	14.60	11.84
Taxes and insurance	19.67	20.08	22.33	23.43	14.59	14.46	19.72	20.27	20.27	20.22
Capital replacement	30.25	28.85	17.66	18.31	27.70	26.29	25.91	23.85	45.84	44.97
Operating capital	2.50	2.20	2.26	2.01	2.73	2.34	2.36	2.04	2.94	2.66
Other nonland capital	11.98	11.52	9.52	9.87	10.84	10.20	10.61	9.89	16.76	16.63
Land	75.43	61.46	29.49	29.83	54.57	48.21	84.42	69.68	58.92	45.12
Unpaid labor	25.14	24.50	31.56	30.53	20.66	20.21	26.09	25.51	22.33	21.66
Total, economic costs	317.11	299.14	246.37	248.62	294.34	279.95	312.41	290.80	346.28	333.46
Residual returns to management and risk	5.84	-49.10	-52.12	-41.89	-10.31	-59.20	11.46	-48.01	4.13	-51.14
Harvest-period price (dollars/bu.)	2.05	2.29	2.29	2.7	2.26	2.41	2.01	2.26	2.14	2.33
Yield (bu./planted acre)	133.82	99.15	75.81	72.59	112.98	84.23	135.77	97.07	140.53	111.67
Percent of planted corn acres in program	67	70	30	31	41	47	69	73	73	72

1/ Deficiency payments. Payments are not adjusted for payment limitations. 2/ Cost of custom operations, technical services, and commercial drying. 3/ Cost of purchased irrigation water, cover crop seed, and other input items.

Figure 9

Grain sorghum production regions

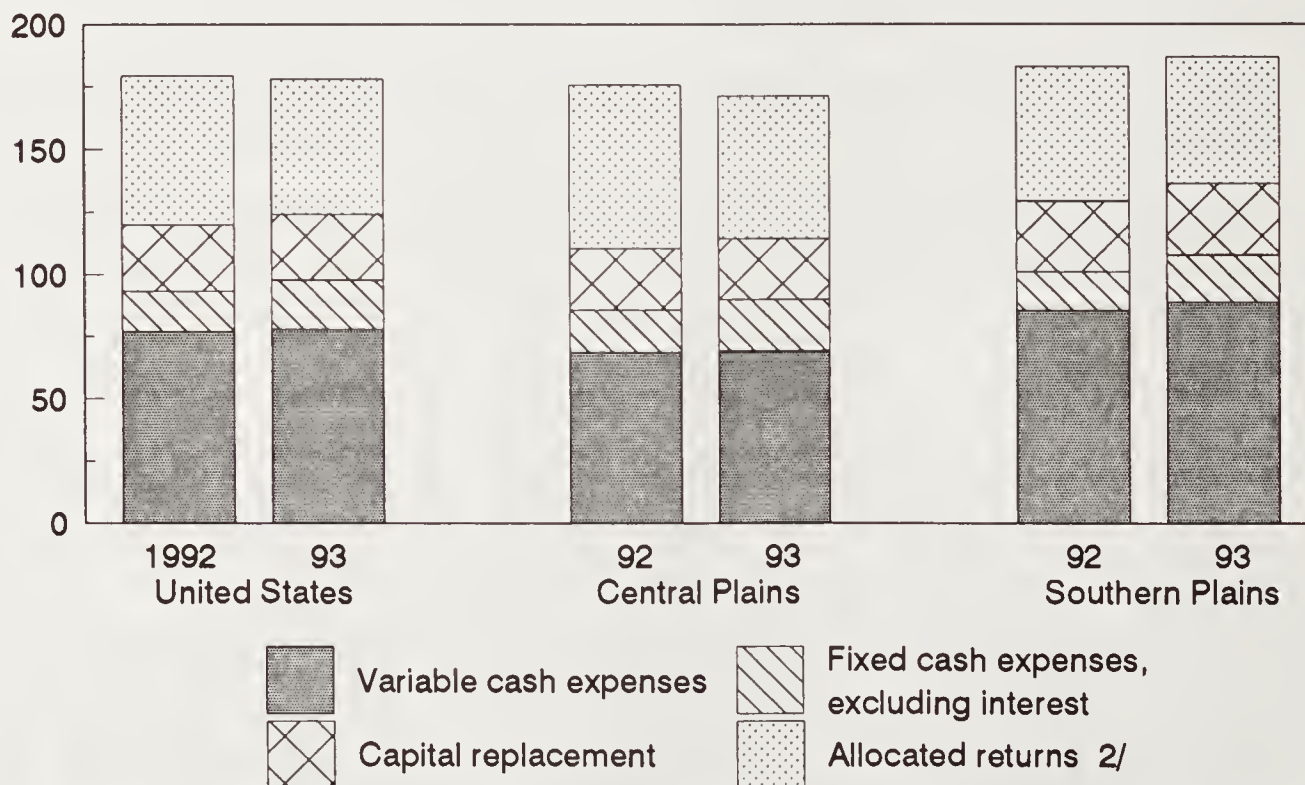


Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 10

Grain sorghum economic costs per planted acre, 1992-93 ^{1/}

Dollars



^{1/} Excluding government payment. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to grain production rather than some other income-producing use.

Table 2A--Grain sorghum production cash costs and returns, 1992-93

Item	United States		Central Plains		Southern Plains	
	1992	1983	1992	1993	1992	1993
Dollars per planted acre						
Gross value of production (excluding direct Government payments):						
Sorghum	127.67	113.27	134.00	115.59	121.65	110.63
Total, gross value of production	127.67	113.27	134.00	115.59	121.65	110.63
Cash expenses:						
Seed	5.70	5.99	5.28	5.59	6.13	6.50
Fertilizer	18.82	18.80	18.13	18.80	19.51	18.79
Chemicals	11.18	13.71	13.42	13.81	8.93	13.59
Custom operations 1/	4.88	4.48	3.19	3.01	6.58	6.31
Fuel, lube, and electricity	14.79	14.36	10.94	10.89	18.65	18.68
Repairs	12.70	12.42	11.87	11.56	13.53	13.49
Hired labor	8.59	7.84	5.99	5.65	11.21	10.58
Other variable cash expenses 2/	0.41	0.45	0.01	0.01	0.93	0.99
Total, variable cash expenses	77.07	78.05	68.83	69.32	85.47	88.93
General farm overhead	5.88	8.39	5.76	8.30	5.99	8.50
Taxes and insurance	10.35	11.48	11.20	12.39	9.50	10.36
Interest	8.41	8.69	10.21	10.35	6.59	6.61
Total, fixed cash expenses	24.64	28.56	27.17	31.04	22.08	25.47
Total, cash expenses	101.71	106.61	96.00	100.36	107.55	114.40
Gross value of production less cash expenses	25.96	6.66	38.00	15.23	14.10	-3.77
Harvest-period price (dollars/bu.)	1.88	2.10	1.74	2.06	2.07	2.16
Yield (bu./planted acre)	67.91	53.94	77.01	56.11	58.77	51.22

Table 2B--Grain sorghum production economic costs and returns, 1992-93

Item	United States		Central Plains		Southern Plains	
	1992	1993	1992	1993	1992	1993
Dollars per planted acre						
Gross value of production (excluding direct Government payments):						
Sorghum	127.67	113.27	134.00	115.59	121.65	110.63
Total, gross value of production	127.67	113.27	134.00	115.59	121.65	110.63
Economic (full ownership) costs:						
Variable cash expenses	77.07	78.05	68.83	69.32	85.47	88.93
General farm overhead	5.88	8.39	5.76	8.30	5.99	8.50
Taxes and insurance	10.35	11.48	11.20	12.39	9.50	10.36
Capital replacement	26.77	26.33	24.90	24.36	28.64	28.79
Operating capital	1.38	1.22	1.23	1.08	1.53	1.39
Other nonland capital	13.50	13.31	13.31	13.02	13.68	13.68
Land	25.92	21.71	29.22	22.64	22.61	20.55
Unpaid labor	18.42	17.69	21.44	20.19	15.39	14.57
Total, economic costs	179.29	178.18	175.89	171.30	182.81	186.77
Residual returns to management and risk	-51.62	-64.91	-41.89	-55.71	-61.16	-76.14
Harvest-period price (dollars/bu.)	1.88	2.10	1.74	2.06	2.07	2.16
Yield (bu./planted acre)	67.91	53.94	77.01	56.11	58.77	51.22

1/ Cost of custom operations and technical services. 2/ Cost of purchased irrigation water.

Table 2C--Grain sorghum production cash costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States		Central Plains		Southern Plains	
	1992	1993	1992	1993	1992	1993
Dollars per planted acre						
Gross value of production (including direct Government payments):						
Market value of sorghum	127.67	113.27	134.00	115.59	121.65	110.63
Direct Government payments 1/	28.34	12.35	32.32	12.58	24.36	12.06
Haying/grazing on ACR and CU acreage	0.73	0.61	1.07	0.83	0.39	0.32
Total, gross value of production	156.74	126.23	167.39	129.00	146.40	123.01
Cash expenses:						
Seed	5.70	5.99	5.28	5.59	6.13	6.50
Fertilizer	18.82	18.80	18.13	18.80	19.51	18.79
Chemicals	11.55	14.20	13.69	14.09	9.40	14.35
Custom operations 2/	4.88	4.48	3.19	3.01	6.58	6.31
Fuel, lube, and electricity	15.81	15.63	11.31	11.32	20.33	21.00
Repairs	13.48	13.40	12.29	12.04	14.67	15.09
Hired labor	9.13	8.49	6.18	5.86	12.09	11.77
Other variable cash expenses 3/	0.79	0.79	0.30	0.26	1.41	1.45
Total, variable cash expenses	80.16	81.78	70.37	70.97	90.12	95.26
General farm overhead	6.20	9.24	5.97	8.92	6.43	9.64
Taxes and insurance	10.85	12.54	11.59	13.27	10.11	11.62
Interest	8.89	9.56	10.53	11.04	7.25	7.72
Total, fixed cash expenses	25.94	31.34	28.09	33.23	23.79	28.98
Total, cash expenses	106.10	113.12	98.46	104.20	113.91	124.24
Gross value of production less cash expenses	50.64	13.11	68.93	24.80	32.49	-1.23
Harvest-period price (dollars/bu.)	1.88	2.10	1.74	2.06	2.07	2.16
Yield (bu./planted acre)	67.91	53.94	77.01	56.11	58.77	51.22
Percent of planted sorghum acres in program	60	72	68	67	50	75

Table 2D--Grain sorghum production economic costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States		Central Plains		Southern Plains	
	1992	1993	1992	1993	1992	1993
Dollars per planted acre						
Gross value of production (including direct Government payments):						
Market value of sorghum	127.67	113.27	134.00	115.59	121.65	110.63
Direct Government payments 1/	28.34	12.35	32.32	12.58	24.36	12.06
Haying/grazing on ACR and CU acreage	0.73	0.61	1.07	0.83	0.39	0.32
Total, gross value of production	156.74	126.23	167.39	129.00	146.40	123.01
Economic (full ownership) costs:						
Variable cash expenses	80.16	81.78	70.37	70.97	90.12	95.26
General farm overhead	6.20	9.24	5.97	8.92	6.43	9.64
Taxes and insurance	10.85	12.54	11.59	13.27	10.11	11.62
Capital replacement	28.55	28.55	25.78	25.35	31.32	32.54
Operating capital	1.49	1.31	1.27	1.12	1.70	1.55
Other nonland capital	14.36	14.39	13.79	13.55	14.93	15.44
Land	27.37	23.30	30.18	23.54	24.55	23.00
Unpaid labor	19.44	18.93	22.21	21.05	16.66	16.29
Total, economic costs	188.42	190.04	181.16	177.77	195.82	205.34
Residual returns to management and risk	-31.68	-63.81	-13.77	-48.77	-49.42	-82.33
Harvest-period price (dollars/bu.)	1.88	2.10	1.74	2.06	2.07	2.16
Yield (bu./planted acre)	67.91	53.94	77.01	56.11	58.77	51.22
Percent of planted sorghum acres in program	60	72	68	67	50	75

1/ Deficiency payments. Payments are not adjusted for payment limitations. 2/ Cost of custom operations, technical services, and commercial drying. 3/ Cost of purchased irrigation water, cover seed, and other input items.

Figure 11

Oats production regions

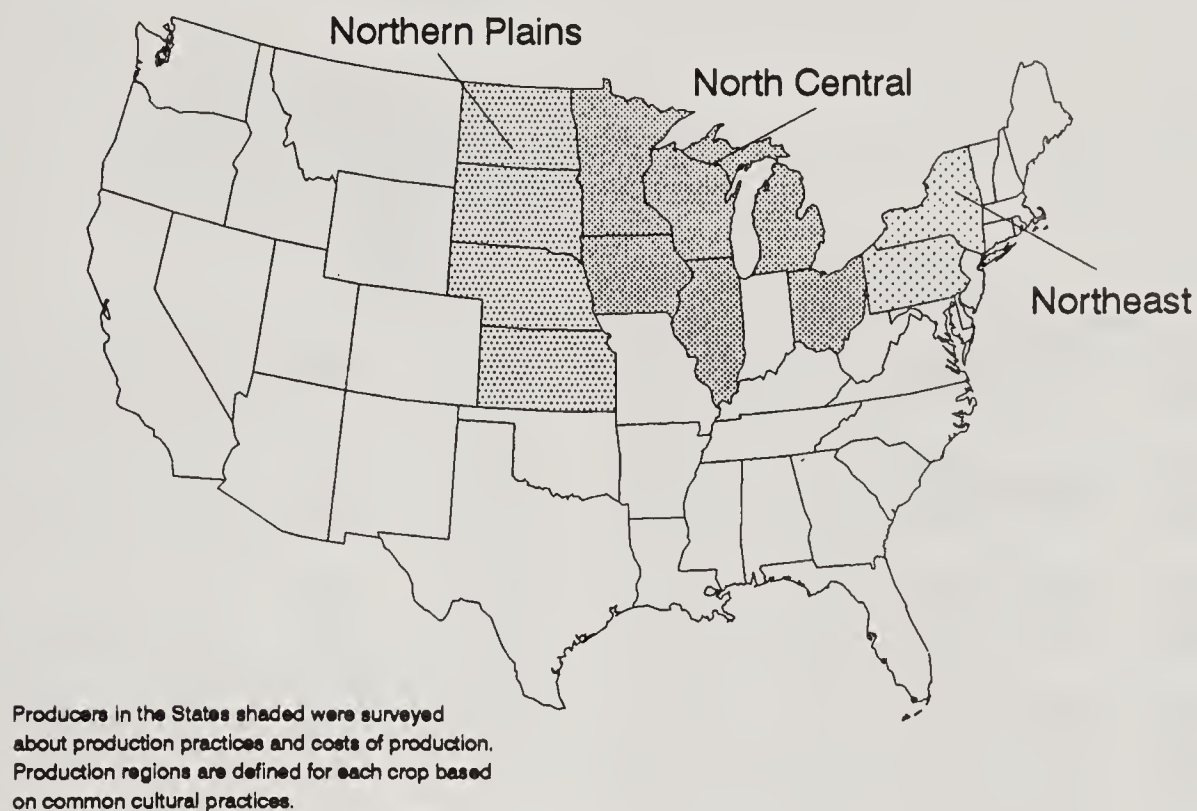
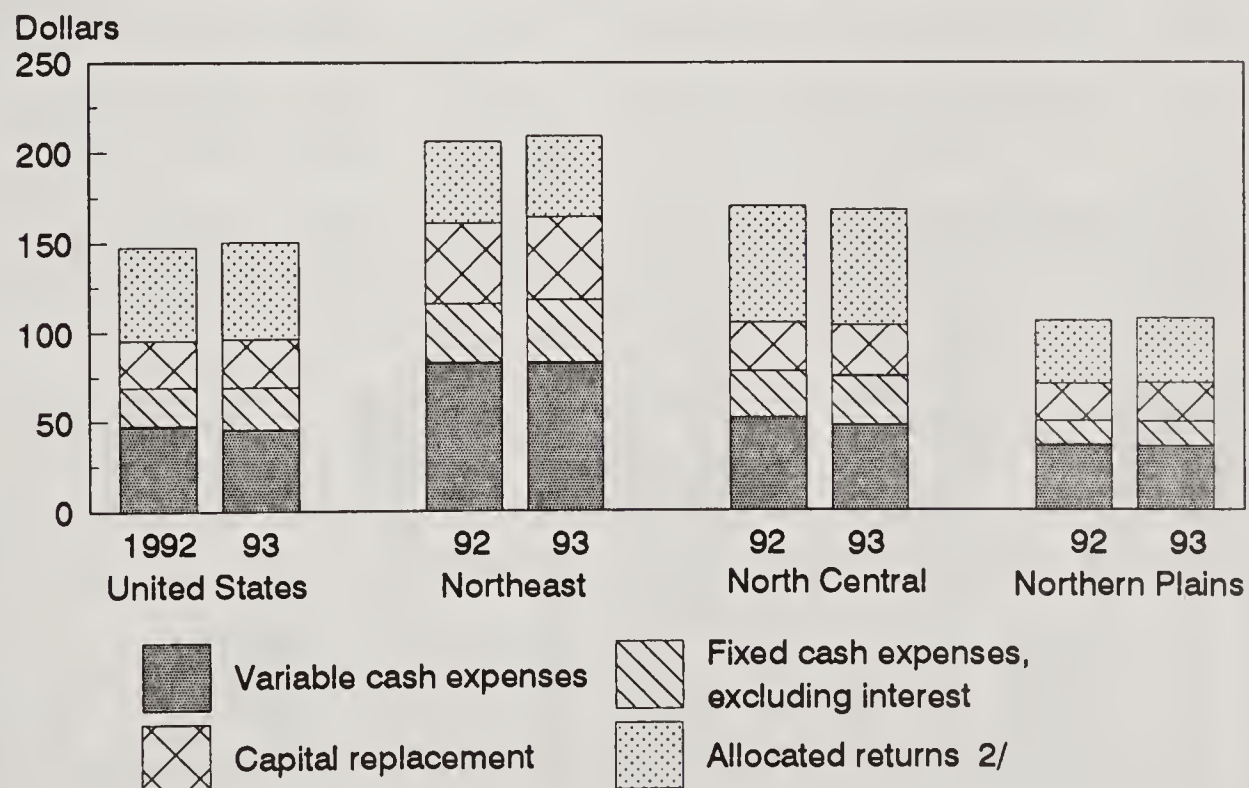


Figure 12

Oats economic costs per planted acre, 1992-93 1/



1/ Excluding government payments. 2/ Income foregone by allocating resources owned by the operation (operating and other nonland capital, land and unpaid labor) to oats production rather than some other income-producing use.

Table 3A--Oats production cash costs and returns, 1992-93

Item	United States 1992	United States 1993	Northeast 1992	Northeast 1993	North Central 1992	North Central 1993	Northern Plains 1992	Northern Plains 1993
Dollars per planted acre								
Gross value of production (excluding direct Government payments):								
Oats	83.56	70.21	100.85	83.76	84.53	66.73	79.02	74.09
Oats straw	18.37	21.03	44.13	42.44	25.28	28.30	4.36	3.60
Total, gross value of production	101.93	91.24	144.98	126.20	109.81	95.03	83.38	77.69
Cash expenses:								
Seed	8.57	8.62	15.18	15.34	9.61	9.48	6.00	5.78
Fertilizer, lime, and gypsum	12.17	11.73	31.74	31.33	13.57	12.46	6.93	6.71
Chemicals	1.14	1.06	3.13	3.25	0.88	0.86	1.16	1.02
Custom operations 1/	6.07	5.27	5.34	5.35	7.43	5.96	4.28	3.98
Fuel, lube, and electricity	6.95	6.73	11.23	11.06	7.22	6.69	5.84	6.00
Repairs	7.50	7.15	11.11	11.55	6.50	6.01	8.31	8.42
Hired labor	5.31	5.15	5.18	4.98	6.41	6.07	3.78	3.48
Other variable cash expenses 2/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total, variable cash expenses	47.71	45.71	82.91	82.86	51.62	47.53	36.30	35.39
General farm overhead	4.26	4.66	11.43	12.29	4.41	4.74	2.85	3.07
Taxes and insurance	17.31	18.78	21.99	22.96	21.71	22.67	10.35	10.81
Interest	3.97	3.82	5.26	4.97	4.43	4.18	3.10	2.93
Total, fixed cash expenses	25.54	27.26	38.68	40.22	30.55	31.59	16.30	16.81
Total, cash expenses	73.25	72.97	121.59	123.08	82.17	79.12	52.60	52.20
Gross value of production less cash expenses	28.68	18.27	23.39	3.12	27.64	15.91	30.78	25.49
Harvest-period price (dollars/bu.)	1.26	1.38	1.48	1.54	1.28	1.41	1.19	1.30
Yield (bu./planted acre)	66.32	51.18	68.14	54.56	66.04	47.32	66.40	57.67

Table 3B--Oats production economic costs and returns, 1992-93

Item	United States 1992	United States 1993	Northeast 1992	Northeast 1993	North Central 1992	North Central 1993	Northern Plains 1992	Northern Plains 1993
Dollars per planted acre								
Gross value of production (excluding direct Government payments):								
Oats	83.56	70.21	100.85	83.76	84.53	66.73	79.02	74.09
Oats straw	18.37	21.03	44.13	42.44	25.28	28.30	4.36	3.60
Total, gross value of production	101.93	91.24	144.98	126.20	109.81	95.03	83.38	77.69
Economic (full ownership) costs:								
Variable cash expenses	47.71	45.71	82.91	82.86	51.62	47.53	36.30	35.39
General farm overhead	4.26	4.66	11.43	12.29	4.41	4.74	2.85	3.07
Taxes and insurance	17.31	18.78	21.99	22.96	21.71	22.67	10.35	10.81
Capital replacement	26.18	27.48	44.63	46.27	27.61	28.62	21.08	21.85
Operating capital	0.85	0.51	1.48	1.06	0.92	0.56	0.65	0.33
Nonland capital	8.49	8.85	12.77	13.20	8.83	9.13	7.29	7.54
Land	24.37	25.72	10.10	10.18	29.57	30.08	19.45	20.59
Unpaid labor	18.40	18.84	21.03	20.21	25.42	24.68	8.09	7.78
Total, economic costs	147.57	150.55	206.34	209.03	170.09	168.01	106.06	107.36
Residual returns to management and risk	-45.64	-59.31	-61.36	-82.83	-60.28	-72.98	-22.68	-29.67
Harvest-period price (dollars/bu.)	1.26	1.38	1.48	1.54	1.28	1.41	1.19	1.30
Yield (bu./planted acre)	66.32	51.18	68.14	54.56	66.04	47.32	66.4	57.67

1/ Cost of custom operations and technical services. 2/ Cost of purchased irrigation water.

Figure 13

Barley production regions

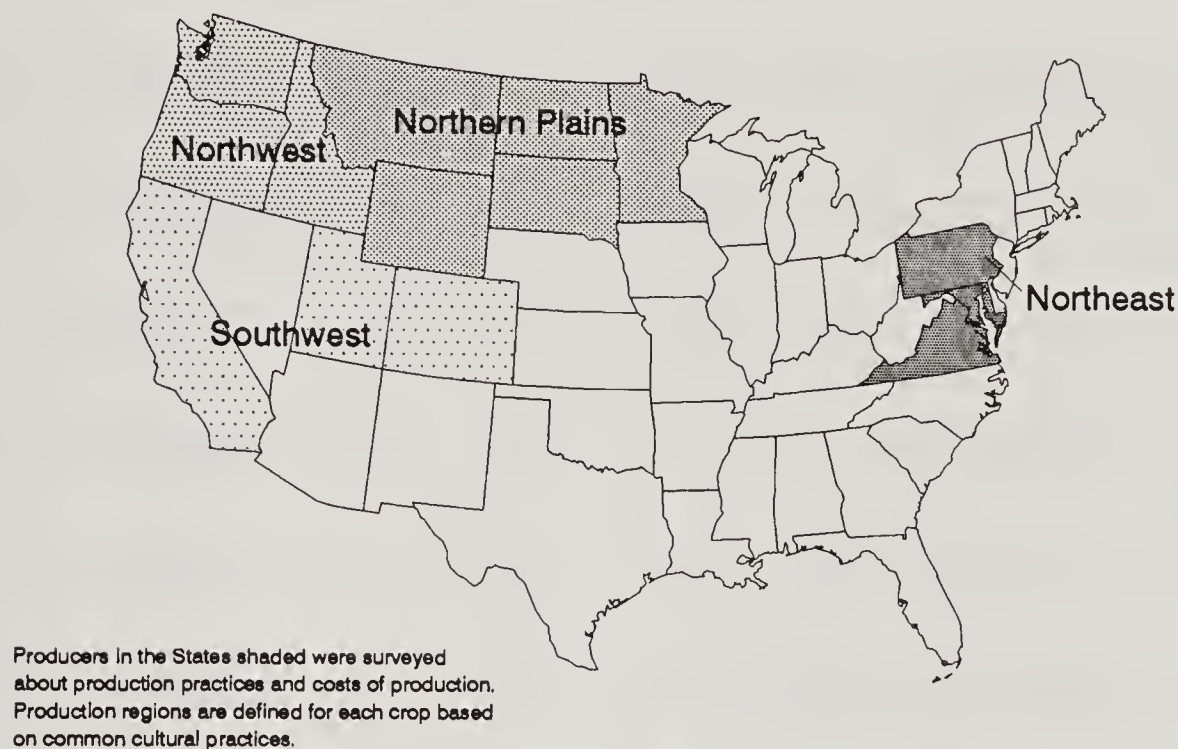
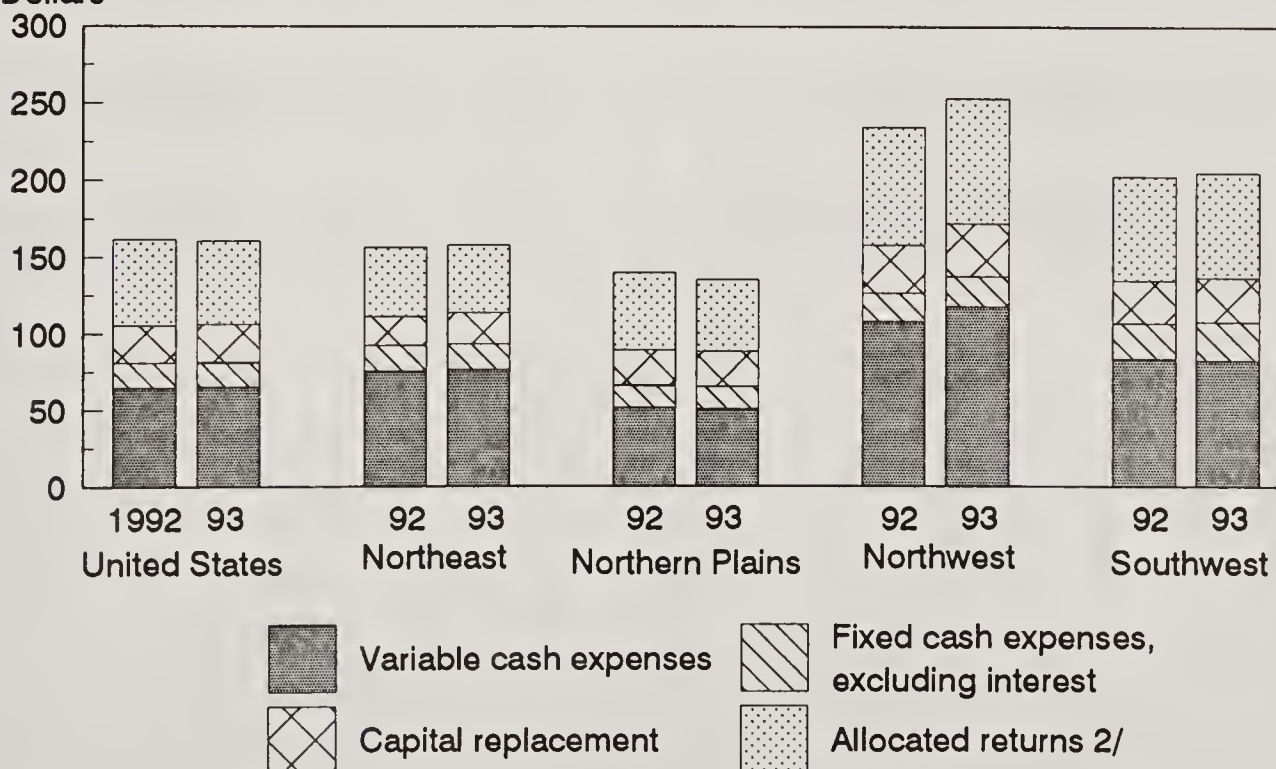


Figure 14

Barley economic costs per planted acre, 1992-93 ^{1/}

Dollars



^{1/} Excluding government payment. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland capital, land and unpaid labor) to barley production rather than some other income-producing use.

Table 4A--Barley production cash costs and returns, 1992-93

Item	United States 1992	United States 1993	Northeast 1992	Northeast 1993	Northern Plains 1992	Northern Plains 1993	Northwest 1992	Northwest 1993	Southwest 1992	Southwest 1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Barley	126.34	100.83	147.20	110.61	111.15	77.17	177.30	183.49	136.83	143.52
Barley straw 1/	4.38	4.27	49.77	42.51	2.00	2.18	3.82	3.91	6.32	6.63
Total, gross value of production	130.72	105.10	196.97	153.12	113.15	79.35	181.12	187.40	143.15	150.15
Cash expenses:										
Seed	7.14	6.85	11.29	12.43	5.43	5.16	11.86	11.67	10.37	10.06
Fertilizer, lime, and gypsum	15.61	15.55	32.33	31.54	12.61	12.27	25.04	27.49	12.66	11.35
Chemicals	7.45	8.04	2.84	3.04	6.22	6.75	13.67	15.12	6.12	6.56
Custom operations	4.01	3.96	4.23	4.40	2.96	2.81	6.06	6.60	9.76	9.81
Fuel, lube, and electricity	11.69	11.95	7.95	7.90	7.92	7.75	24.67	27.80	18.80	19.68
Repairs	12.12	12.40	10.40	11.01	11.53	11.50	14.79	16.41	12.04	12.60
Hired labor	5.01	4.72	4.83	4.28	3.94	3.67	7.90	8.22	8.79	7.59
Other variable cash expenses 2/	1.71	1.66	1.77	1.88	0.88	0.77	3.90	4.35	4.80	4.57
Total, variable cash expenses	64.74	65.13	75.64	76.48	51.49	50.68	107.89	117.66	83.34	82.22
General farm overhead	5.44	5.50	5.01	5.08	5.05	5.04	6.22	6.62	7.70	8.10
Taxes and insurance	10.49	10.52	11.33	11.57	9.45	9.37	12.45	12.77	15.93	17.24
Interest	9.82	8.58	3.51	3.03	10.06	8.66	11.73	10.80	5.46	4.85
Total, fixed cash expenses	25.75	24.60	19.85	19.68	24.56	23.07	30.40	30.19	29.09	30.19
Total, cash expenses	90.49	89.73	95.49	96.16	76.05	73.75	138.29	147.85	112.43	112.41
Gross value of production less cash expenses	40.23	15.37	101.48	56.96	37.10	5.60	42.83	39.55	30.72	37.74
Harvest-period price (dollars/bu.)	2.16	1.98	1.93	1.64	1.97	1.79	2.76	2.38	2.49	2.43
Yield (bu./planted acre)	58.49	50.95	76.27	67.38	56.42	43.23	64.24	77.07	54.95	59.18

Table 4B--Barley production economic costs and returns, 1992-93

Item	United States 1992	United States 1993	Northeast 1992	Northeast 1993	Northern Plains 1992	Northern Plains 1993	Northwest 1992	Northwest 1993	Southwest 1992	Southwest 1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Barley	126.34	100.83	147.20	110.61	111.15	77.17	177.30	183.49	136.83	143.52
Barley straw 1/	4.38	4.27	49.77	42.51	2.00	2.18	3.82	3.91	6.32	6.63
Total, gross value of production	130.72	105.10	196.97	153.12	113.15	79.35	181.12	187.40	143.15	150.15
Economic (full ownership) costs:										
Variable cash expenses	64.74	65.13	75.64	76.48	51.49	50.68	107.89	117.66	83.34	82.22
General farm overhead	5.44	5.50	5.01	5.08	5.05	5.04	6.22	6.62	7.70	8.10
Taxes and insurance	10.49	10.52	11.33	11.57	9.45	9.37	12.45	12.77	15.93	17.24
Capital replacement	24.66	25.29	19.43	20.54	23.05	22.98	30.95	34.79	27.72	29.01
Operating capital	1.16	1.01	1.35	1.19	0.92	0.79	1.93	1.84	1.49	1.28
Other nonland capital	12.69	12.97	10.13	10.72	12.80	12.72	12.90	14.46	12.43	13.12
Land	35.72	33.93	19.66	19.34	31.58	28.78	51.99	54.47	44.68	46.31
Unpaid labor	6.69	6.38	13.71	12.68	5.24	5.00	10.06	10.26	9.19	7.97
Total, economic costs	161.59	160.73	156.26	157.60	139.58	135.36	234.39	252.87	202.48	205.25
Residual returns to management and risk	-30.87	-55.63	40.71	-4.48	-26.43	-56.01	-53.27	-65.47	-59.33	-55.10
Harvest-period price (dollars/bu.)	2.16	1.98	1.93	1.64	1.97	1.79	2.76	2.38	2.49	2.43
Yield (bu./planted acre)	58.49	50.95	76.27	67.38	56.42	43.23	64.24	77.07	54.95	59.18

1/ Includes value of grazing in Southwest region. 2/ Cost of purchased water and baling.
Note: Survey base year is 1992.

Table 4C--Barley production cash costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States		Northeast		Northern Plains		Northwest		Southwest	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (including direct Government payments):										
Market value of barley	126.34	100.83	147.20	110.61	111.15	77.17	177.30	183.49	136.83	143.52
Direct government payments 1/	15.63	20.37	2.76	5.09	16.24	20.64	18.21	25.01	9.08	13.69
Barley straw 2/	4.60	4.54	49.77	42.51	2.13	2.32	4.38	4.84	6.72	6.96
Total, gross value of production	146.57	125.74	199.73	158.21	129.52	100.13	199.89	213.34	152.63	164.17
Cash expenses:										
Seed	7.14	6.85	11.30	12.43	5.43	5.16	11.86	11.67	10.37	10.06
Fertilizer, lime, and gypsum	15.61	15.55	32.33	31.54	12.61	12.27	25.03	27.49	12.66	11.35
Chemicals	8.06	8.77	2.85	3.04	6.73	7.34	15.01	16.88	6.14	6.58
Custom operations	4.02	3.96	4.23	4.40	2.96	2.81	6.06	6.60	9.76	9.81
Fuel, lube, and electricity	12.98	13.37	7.98	7.92	9.13	9.01	26.29	29.92	20.80	22.05
Repairs	13.23	13.63	10.42	11.02	12.60	12.63	16.15	18.16	13.59	14.42
Hired labor	5.37	5.08	4.84	4.29	4.26	3.99	8.39	8.77	9.38	8.21
Other variable cash expenses 3/	1.96	1.92	1.81	1.92	1.09	1.00	4.17	4.64	5.46	5.27
Total, variable cash expenses	68.37	69.13	75.76	76.56	54.81	54.21	112.96	124.13	88.16	87.75
General farm overhead	5.96	6.45	5.04	5.48	5.61	6.00	6.73	7.61	8.15	9.09
Taxes and insurance	12.12	12.67	11.48	11.88	10.75	11.16	14.92	15.89	19.53	21.94
Interest	10.64	9.93	3.53	3.27	10.93	10.09	12.55	12.28	6.10	5.67
Total, fixed cash expenses	28.72	29.05	20.05	20.63	27.29	27.25	34.20	35.78	33.78	36.70
Total, cash expenses	97.09	98.18	95.81	97.19	82.10	81.46	147.16	159.91	121.94	124.45
Gross value of production less cash expenses	49.48	27.56	103.92	61.02	47.42	18.67	52.73	53.43	30.69	39.72
Harvest-period price (dollars/bu.)	2.16	1.98	1.93	1.64	1.97	1.79	2.76	2.38	2.49	2.43
Yield (bu./planted acre)	58.49	50.95	76.27	67.38	56.42	43.23	64.24	77.07	54.95	59.18
Percent of planted barley acres in program	63	67	11	17	70	73	57	63	29	35

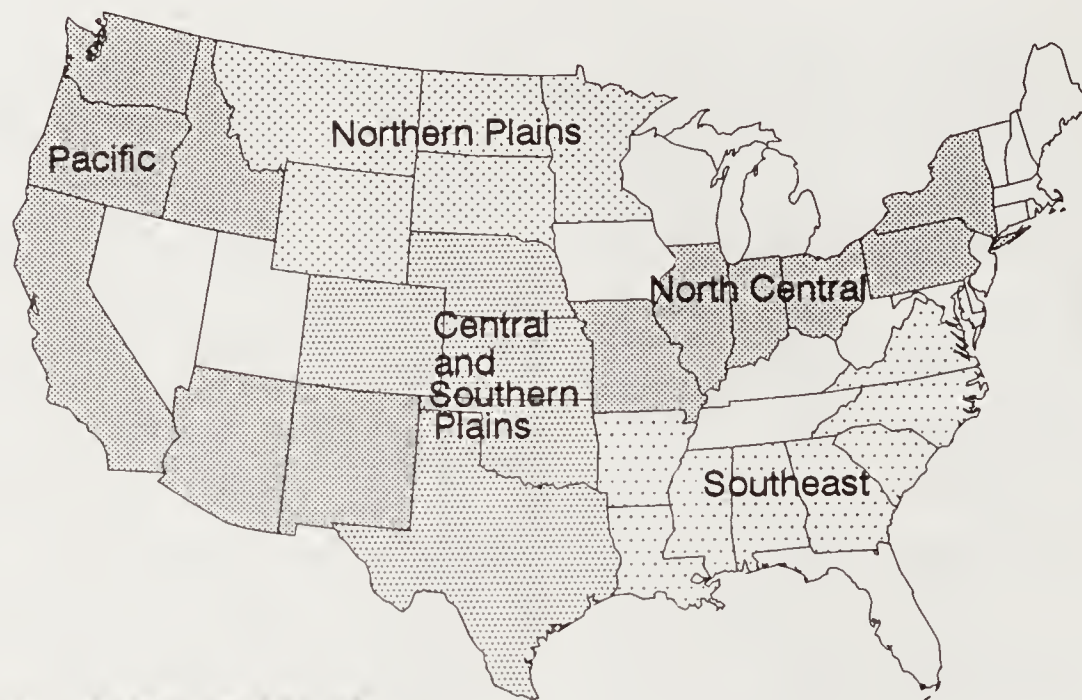
Table 4D--Barley production cash costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States		Northeast		Northern Plains		Northwest		Southwest	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (including direct Government payments):										
Market value of barley	126.34	100.83	147.20	110.61	111.15	77.17	177.30	183.49	136.83	143.52
Direct government payments 1/	15.63	20.37	2.76	5.09	16.24	20.64	18.21	25.01	9.08	13.69
Barley straw 2/	4.60	4.54	49.77	42.51	2.13	2.32	4.38	4.84	6.72	6.96
Total, gross value of production	146.57	125.74	199.73	158.21	129.52	100.13	199.89	213.34	152.63	164.17
Economic (full ownership) costs:										
Variable cash expenses	68.37	69.13	75.76	76.56	54.81	54.21	112.96	124.13	88.16	87.75
General farm overhead	5.96	6.45	5.04	5.48	5.61	6.00	6.73	7.61	8.15	9.09
Taxes and insurance	12.12	12.67	11.48	11.88	10.75	11.16	14.92	15.89	19.53	21.94
Capital replacement	25.76	26.49	19.45	20.55	24.15	24.13	32.11	36.27	29.15	30.69
Operating capital	1.22	1.08	1.35	1.19	0.98	0.85	2.02	1.94	1.57	1.37
Other nonland ⁴ capital	13.36	13.70	10.14	10.73	13.47	13.43	13.58	15.34	13.25	14.08
Land	39.88	39.74	19.65	19.49	35.52	34.48	58.13	61.71	48.11	52.85
Unpaid labor	7.31	7.01	13.72	12.69	5.84	5.61	10.82	11.10	9.88	8.70
Total, economic costs	173.98	176.27	156.59	158.57	151.13	149.87	251.27	273.99	217.80	226.47
Residual returns to management and risk	-27.41	-50.53	43.14	-0.36	-21.61	-49.74	-51.38	-60.65	-65.17	-62.30
Harvest-period price (dollars/bu.)	2.16	1.98	1.93	1.64	1.97	1.79	2.76	2.38	2.49	2.43
Yield (bu./planted acre)	58.49	50.95	76.27	67.38	56.42	43.23	64.24	77.07	54.95	59.18
Percent of planted barley acres in program	63	67	11	17	70	73	57	63	29	35

1/ Deficiency payments. Payments are not adjusted for payment limitations. 2/ Includes value of grazing and haying on barley set-aside and conserving use acres. 3/ Cost of purchased water, baling and cover crop seed.

Figure 15

Wheat production regions

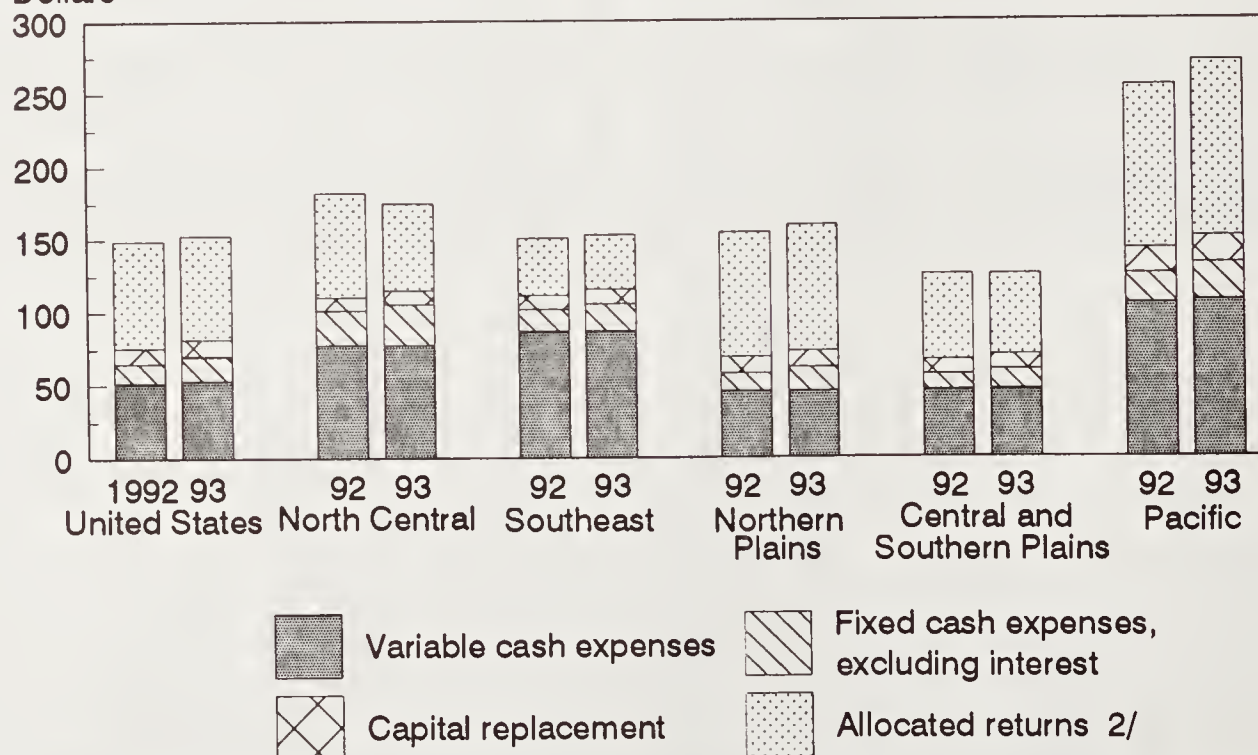


Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 16

Wheat economic costs per planted acre, 1992-93 ^{1/}

Dollars



^{1/} Excluding government payments. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to wheat production rather than some other income-producing use.

Table 5A--Wheat production cash costs and returns, 1992-93

Item	United States		North Central		Southeast		Northern Plains		Southern Plains		Pacific	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre												
Gross value of production (excluding direct Government payments):												
Wheat	112.12	99.21	138.98	110.14	134.91	95.96	117.81	102.82	84.04	74.09	189.12	196.69
Wheat straw	1.37	1.24	14.11	11.18	1.76	1.81	0.61	0.64	0.35	0.37	1.30	1.35
Total, gross value of production	113.49	100.45	153.09	121.32	136.67	97.77	118.42	103.46	84.39	74.46	190.42	198.04
Cash expenses:												
Seed	6.67	6.94	12.86	13.72	13.41	13.72	6.40	6.45	4.87	5.26	10.79	10.89
Fertilizer, lime, and gypsum	14.46	14.37	40.71	40.17	34.45	33.70	9.74	9.38	11.70	11.37	26.10	28.60
Chemicals	6.15	6.35	2.96	2.85	7.55	7.78	7.76	8.08	3.35	3.49	16.09	16.60
Custom operations 1/	4.24	4.27	5.91	5.71	7.81	7.81	2.68	2.68	4.82	4.89	6.17	6.07
Fuel, lube, and electricity	8.81	8.90	6.68	6.74	7.05	7.14	7.66	7.81	8.55	8.64	19.12	18.65
Repairs	7.22	7.53	4.76	4.89	6.60	6.90	7.08	7.41	7.48	7.77	8.70	9.03
Hired labor	5.52	5.33	3.96	3.67	9.84	9.85	3.96	3.85	5.09	4.85	15.68	15.04
Other variable cash expenses 2/	0.20	0.20	0.00	0.00	0.00	0.00	0.01	0.01	0.05	0.05	2.31	2.27
Total, variable cash expenses	53.27	53.89	77.84	77.75	86.71	86.90	45.29	45.67	45.91	46.32	104.96	107.15
General farm overhead	4.97	6.04	8.22	9.87	6.72	8.19	4.93	6.01	3.54	4.28	10.35	12.59
Taxes and insurance	8.07	10.39	15.17	17.71	8.25	10.11	7.73	10.22	7.09	9.17	10.07	12.89
Interest	7.77	7.87	11.62	12.04	8.17	8.16	8.84	8.98	5.45	5.47	12.66	12.95
Total, fixed cash expenses	20.81	24.30	35.01	39.62	23.14	26.46	21.50	25.21	16.08	18.92	33.08	38.43
Total, cash expenses	74.08	78.19	112.85	117.37	109.85	113.36	66.79	70.88	61.99	65.24	138.04	145.58
Gross value of production less cash expenses	39.41	22.26	40.24	3.95	26.82	-15.59	51.63	32.58	22.40	9.22	52.38	52.46
Harvest-period price (dollars/bu.)	3.32	2.99	3.27	2.67	3.24	2.71	3.30	3.39	3.22	2.70	3.67	3.13
Yield (bu./planted acre)	33.77	33.18	42.50	41.25	41.64	35.41	35.70	30.33	26.10	27.44	51.53	62.84

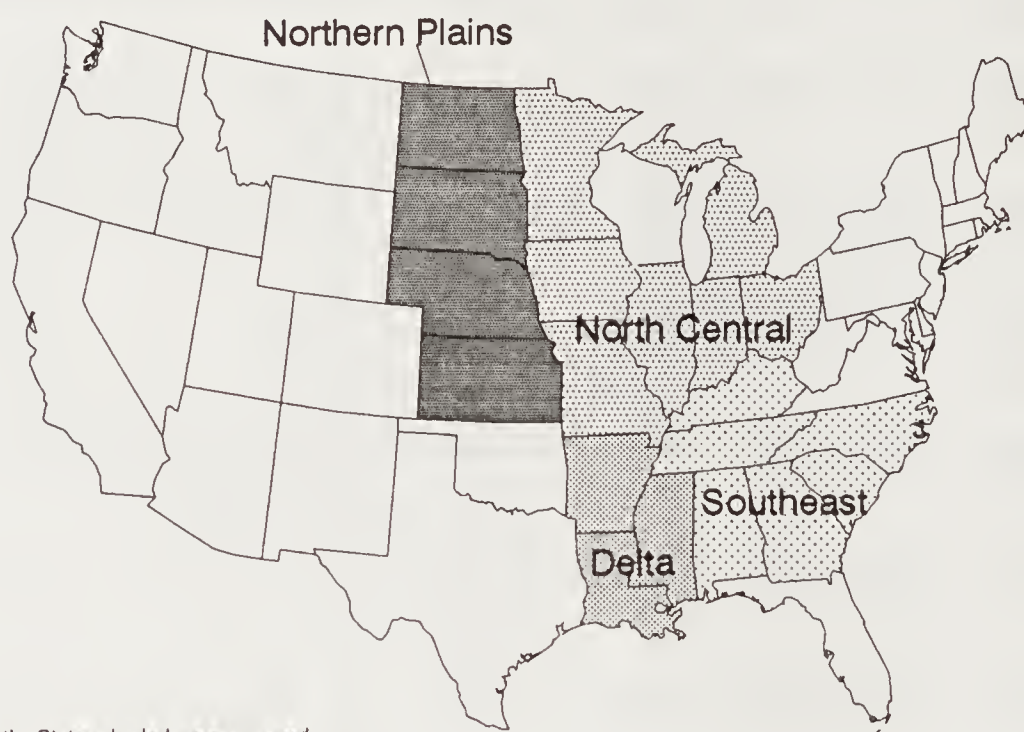
Table 5B--Wheat production economic costs and returns, 1992-93

Item	United States		North Central		Southeast		Northern Plains		Southern Plains		Pacific	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre												
Gross value of production (excluding direct Government payments):												
Wheat	112.12	99.21	138.98	110.14	134.91	95.96	117.81	102.82	84.04	74.09	189.12	196.69
Wheat straw	1.37	1.24	14.11	11.18	1.76	1.81	0.61	0.64	0.35	0.37	1.30	1.35
Total, gross value of production	113.49	100.45	153.09	121.32	136.67	97.77	118.42	103.46	84.39	74.46	190.42	198.04
Economic (full ownership) costs:												
Variable cash expenses	53.27	53.89	77.84	77.75	86.71	86.90	45.29	45.67	45.91	46.32	104.96	107.15
General farm overhead	4.97	6.04	8.22	9.87	6.72	8.19	4.93	6.01	3.54	4.28	10.35	12.59
Taxes and insurance	8.07	10.39	15.17	17.71	8.25	10.11	7.73	10.22	7.09	9.17	10.07	12.89
Capital replacement	10.93	11.38	9.31	9.65	10.06	10.52	10.97	11.45	10.08	10.46	17.53	18.23
Operating capital	0.95	0.84	1.39	1.21	1.55	1.36	0.81	0.71	0.82	0.72	1.87	1.67
Other nonland capital	13.30	13.84	16.16	16.54	11.52	11.96	14.05	14.72	12.30	12.76	13.86	14.44
Land	49.18	47.25	35.19	24.95	16.98	14.81	59.66	59.68	38.65	34.58	82.47	91.24
Unpaid labor	10.00	9.69	18.75	17.50	9.07	9.03	11.33	11.04	7.13	6.93	13.51	13.23
Total, economic costs	150.67	153.32	182.03	175.18	150.86	152.88	154.77	159.50	125.52	125.22	254.62	271.44
Residual returns to management and risk	-37.18	-52.87	-28.94	-53.86	-14.19	-55.11	-36.35	-56.04	-41.13	-50.76	-64.20	-73.40
Harvest-period price (dollars/bu.)	3.32	2.99	3.27	2.67	3.24	2.71	3.30	3.39	3.22	2.70	3.67	3.13
Yield (bu./planted acre)	33.77	33.18	42.50	41.25	41.64	35.41	35.70	30.33	26.10	27.44	51.53	62.84

1/ Cost of custom operations and technical services. 2/ Cost of purchased irrigation water.

Figure 17

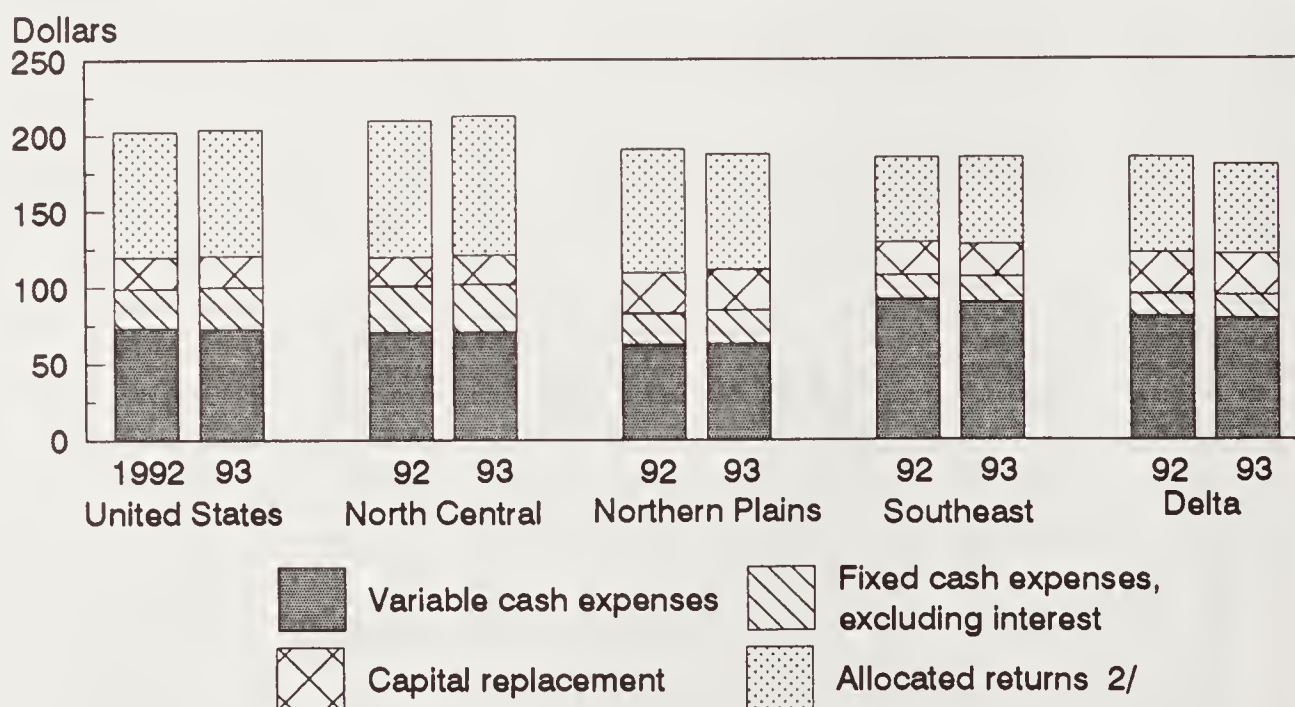
Soybean production regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 18

Soybean economic costs per planted acre, 1992-93^{1/}



^{1/} Excluding government payments. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonpaid capital, land, and unpaid labor) to soybean production rather than some other income-producing use.

Table 6A--Soybean production cash costs and returns, 1992-93

Item	United States		North Central		Northern Plains		Southeast		Delta	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production:										
Soybeans	193.36	186.38	206.19	203.59	167.33	146.78	153.63	146.23	181.69	151.39
Total, gross value of production	193.36	186.38	206.19	203.59	167.33	146.78	153.63	146.23	181.69	151.39
Cash expenses:										
Seed	12.46	12.46	13.30	13.40	12.04	12.07	10.02	9.78	9.51	9.15
Fertilizer, lime, and gypsum	9.39	8.82	8.43	7.96	2.77	2.61	23.92	22.62	5.68	5.22
Chemicals	23.53	24.13	24.59	25.18	19.09	18.96	22.22	22.96	22.91	23.63
Custom operations 1/	3.66	3.55	4.03	3.88	2.40	2.45	2.58	2.31	3.96	3.87
Fuel, lube, and electricity	8.46	8.31	7.27	7.26	10.60	11.06	9.77	9.13	13.46	12.17
Repairs	9.57	9.61	8.73	8.88	10.27	10.13	11.40	11.12	13.00	12.74
Hired labor	6.21	6.10	4.67	4.46	5.31	5.30	12.01	11.86	12.02	12.29
Other variable cash expenses 2/	0.04	0.04	0.02	0.02	0.19	0.22	0.00	0.00	0.00	0.00
Total, variable cash expenses	73.32	73.02	71.04	71.04	62.67	62.80	91.92	89.78	80.54	79.07
General farm overhead	8.78	9.79	9.72	10.81	7.37	8.31	6.04	6.75	6.86	7.61
Taxes and insurance	17.10	17.47	20.26	20.51	12.82	13.83	9.50	9.92	7.75	7.93
Interest	12.76	12.49	14.65	14.29	11.77	11.68	5.84	5.81	8.34	8.07
Total, fixed cash expenses	38.64	39.75	44.63	45.61	31.96	33.82	21.38	22.48	22.95	23.61
Total, cash expenses	111.96	112.77	115.67	116.65	94.63	96.62	113.30	112.26	103.49	102.68
Gross value of production less cash expenses	81.40	73.61	90.52	86.94	72.70	50.16	40.33	33.97	78.20	48.71
Harvest-period price (dollars/bu.)	5.25	6.12	5.24	6.09	5.04	5.82	5.34	6.38	5.57	6.49
Yield (bu./planted acre)	36.83	30.45	39.35	33.41	33.20	25.24	28.77	22.94	32.62	23.32

Table 6B--Soybean production economic costs and returns, 1992-93

Item	United States		North Central		Northern Plains		Southeast		Delta	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production:										
Soybeans	193.36	186.38	206.19	203.59	167.33	146.78	153.63	146.23	181.69	151.39
Total, gross value of production	193.36	186.38	206.19	203.59	167.33	146.78	153.63	146.23	181.69	151.39
Economic (full ownership) costs:										
Variable cash expenses	73.32	73.02	71.04	71.04	62.67	62.80	91.92	89.78	80.54	79.07
General farm overhead	8.78	9.79	9.72	10.81	7.37	8.31	6.04	6.75	6.86	7.61
Taxes and insurance	17.10	17.47	20.26	20.51	12.82	13.83	9.50	9.92	7.75	7.93
Capital replacement	20.71	20.80	18.73	19.07	26.81	26.69	21.79	21.28	27.06	26.60
Operating capital	1.31	1.14	1.27	1.11	1.12	0.98	1.64	1.40	1.44	1.23
Other nonland capital	11.79	11.79	11.44	11.54	13.21	13.04	11.44	11.15	13.23	12.97
Land	50.72	51.44	57.34	59.14	46.34	41.54	27.28	29.35	35.52	31.87
Unpaid labor	19.29	18.72	20.47	19.72	20.78	20.62	15.64	15.49	12.57	12.91
Total, economic costs	203.02	204.17	210.27	212.94	191.12	187.81	185.25	185.12	184.97	180.19
Residual returns to management and risk	-9.66	-17.79	-4.08	-9.35	-23.79	-41.03	-31.62	-38.89	-3.28	-28.80
Harvest-period price (dollars/bu.)	5.25	6.12	5.24	6.09	5.04	5.82	5.34	6.38	5.57	6.49
Yield (bu./planted acre)	36.83	30.45	39.35	33.41	33.20	25.24	28.77	22.94	32.62	23.32

1/ Cost of custom operations and technical services. 2/ Cost of purchased irrigation water.

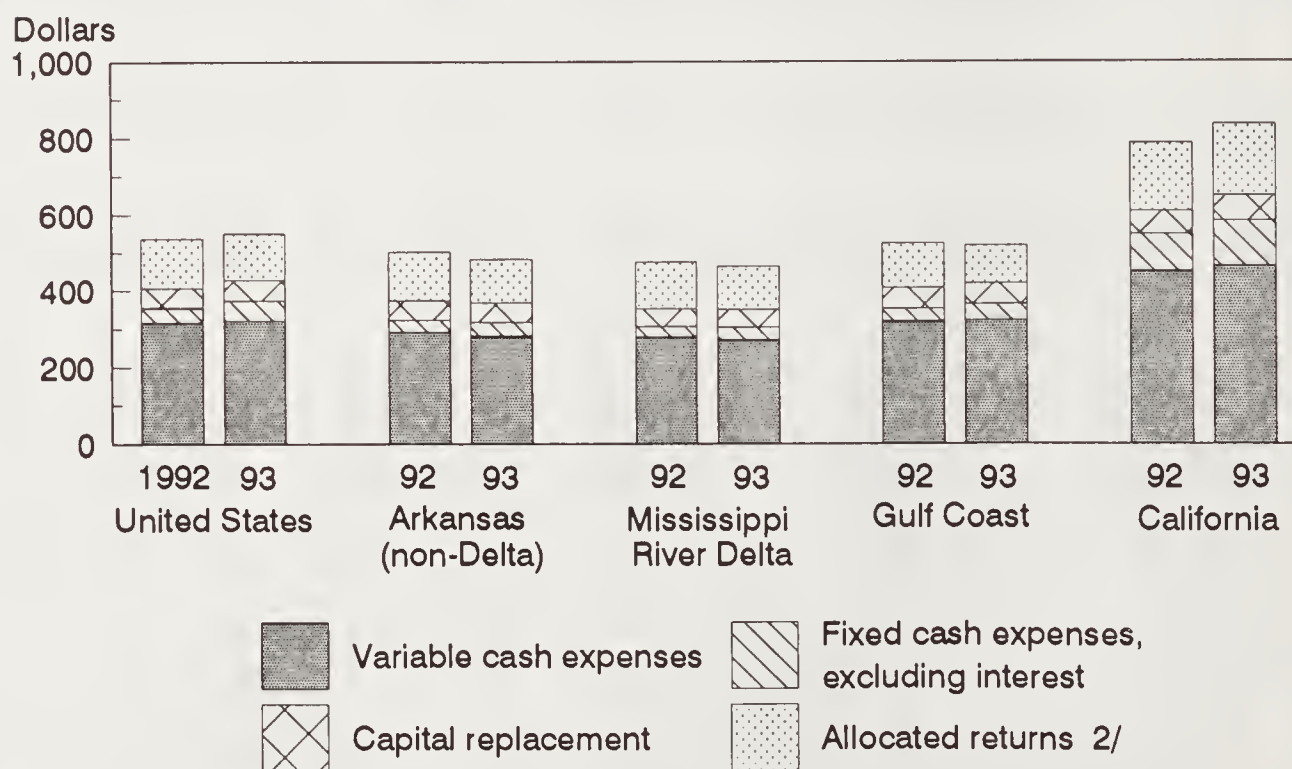
Figure 19

Rice production regions



Figure 20

Rice economic costs per planted acre, 1992-93 ^{1/}



^{1/} Excluding government payments. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to rice production rather than some income-producing use.

Table 7A--Rice production cash costs and returns, 1992-93

Item	United States		Arkansas		Mississippi		Gulf Coast		California	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Rice	370.79	322.16	369.15	316.01	357.07	300.23	338.25	256.50	477.46	460.38
Total, gross value of production	370.79	322.16	369.15	316.01	357.07	300.23	338.25	256.50	477.46	460.38
Cash expenses:										
Seed	20.76	19.49	19.26	19.26	20.16	18.03	22.53	19.71	21.91	21.45
Fertilizer	42.08	43.18	38.32	38.91	39.14	39.19	45.18	45.92	50.95	52.05
Chemicals	52.33	55.67	51.18	53.11	52.41	54.39	47.83	51.23	65.77	68.25
Custom operations 1/	41.85	44.66	34.37	34.22	34.44	33.86	40.11	40.11	81.00	83.68
Fuel, lube, and electricity	64.80	60.28	67.84	57.29	67.09	60.64	59.39	57.08	64.48	69.82
Repairs	25.26	26.06	25.69	25.11	23.73	23.66	24.89	27.93	31.36	31.36
Hired labor	32.44	33.73	30.00	30.42	29.28	29.69	33.86	35.33	42.02	42.60
Drying 2/	27.10	27.94	24.25	21.69	11.60	10.64	27.09	26.09	65.34	63.69
Other variable cash expenses 3/	9.45	10.86	0.98	1.01	0.01	0.01	18.72	19.26	29.70	30.55
Total, variable cash expenses	316.07	321.87	291.89	281.02	277.86	270.11	319.60	320.41	449.10	463.45
General farm overhead	20.10	26.72	13.79	16.11	12.61	14.74	16.63	20.23	60.15	70.29
Taxes and insurance	18.89	25.48	16.64	20.45	14.57	17.89	16.79	22.98	38.46	47.70
Interest	22.61	23.59	22.95	23.20	20.08	20.30	20.52	21.18	31.52	31.87
Total, fixed cash expenses	61.60	75.79	53.38	59.76	47.26	52.93	53.94	64.39	130.13	149.86
Total, cash expenses	377.67	397.66	345.27	340.78	325.12	323.04	373.54	384.80	579.23	613.31
Gross value of production less cash expenses	-6.88	-75.50	23.88	-24.77	31.95	-22.81	-35.29	-128.30	-101.77	-152.93
Harvest-period price (dollars/cwt.)	6.32	5.81	6.49	6.21	6.51	5.97	6.46	5.28	5.57	5.51
Yield (cwt./planted acre)	58.67	55.45	56.88	50.89	54.85	50.29	52.36	48.58	85.72	83.55

Table 7B--Rice production economic costs and returns, 1992-93

Item	United States		Arkansas		Mississippi		Gulf Coast		California	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Rice	370.79	322.16	369.15	316.01	357.07	300.23	338.25	256.50	477.46	460.38
Total, gross value of production	370.79	322.16	369.15	316.01	357.07	300.23	338.25	256.50	477.46	460.38
Economic (full ownership) costs:										
Variable cash expenses	316.07	321.87	291.89	281.02	277.86	270.11	319.60	320.41	449.10	463.45
General farm overhead	20.10	26.72	13.79	16.11	12.61	14.74	16.63	20.23	60.15	70.29
Taxes and insurance	18.89	25.48	16.64	20.45	14.57	17.89	16.79	22.98	38.46	47.70
Capital replacement	52.12	53.83	51.76	50.58	47.71	47.57	53.17	54.57	59.26	66.54
Operating capital	5.64	5.03	5.21	4.38	4.96	4.21	5.70	5.03	8.02	7.23
Other nonland capital	20.54	20.48	22.02	21.96	19.64	19.59	20.17	20.33	19.13	19.08
Land	78.65	73.22	75.22	61.71	81.28	73.23	60.74	44.30	124.49	135.25
Unpaid labor	25.23	25.17	26.61	26.98	15.68	16.91	30.28	29.52	28.46	26.04
Total, economic costs	537.24	551.80	503.14	483.19	474.31	464.25	523.08	517.37	787.07	835.58
Residual returns to management and risk	-166.45	-229.64	-133.99	-167.18	-117.24	-164.02	-184.83	-260.87	-309.61	-375.20
Harvest-period price (dollars/cwt.)	6.32	5.81	6.49	6.21	6.51	5.97	6.46	5.28	5.57	5.51
Yield (cwt./planted acre)	58.67	55.45	56.88	50.89	54.85	50.29	52.36	48.58	85.72	83.55
1/ Cost of custom operations and technical services. 2/ Commercial drying only, beginning in 1992. 3/ Cost of purchased irrigation water.										

Table 7C--Rice production cash costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States 1992	United States 1993	Arkansas (non-Delta) 1992	Arkansas (non-Delta) 1993	Mississippi River Delta 1992	Mississippi River Delta 1993	Gulf Coast 1992	Gulf Coast 1993	California 1992	California 1993
Dollars per planted acre										
Gross value of production (including direct Government payments):										
Market value of rice	370.79	322.16	369.15	316.01	357.07	300.23	338.25	256.5	477.46	460.38
Direct Government payments 1/	221.11	258.40	206.24	243.52	183.16	160.43	223.30	259.00	331.35	407.62
Haying/grazing on ACR and CU acreage	0.03	0.04	0.00	0.00	0.01	0.01	0.03	0.06	0.13	0.15
Total, gross value of production	591.93	580.60	575.39	559.53	540.24	460.67	561.58	515.56	808.94	868.15
Cash expenses:										
Seed	20.76	19.49	19.26	19.26	20.16	18.03	22.53	19.71	21.91	21.45
Fertilizer	42.08	43.18	38.32	38.91	39.14	39.19	45.18	45.92	50.95	52.05
Chemicals	52.35	55.76	51.18	53.14	52.41	54.39	47.87	51.37	65.81	68.51
Custom operations 2/	41.86	44.67	34.37	34.22	34.44	33.86	40.13	40.15	81.00	83.68
Fuel, lube, and electricity	64.94	62.04	67.87	58.62	67.25	63.70	59.68	58.64	64.61	71.01
Repairs	25.43	30.36	25.73	26.35	27.78	25.21	29.21	33.82	28.11	35.97
Hired labor	32.49	39.45	30.01	31.93	29.34	34.86	33.96	46.53	42.08	48.86
Drying 3/	27.10	27.94	24.25	21.69	11.60	10.64	27.09	26.09	65.34	63.69
Other variable cash expenses 4/	9.54	10.86	1.03	1.01	0.17	0.01	18.78	19.26	29.83	30.55
Total, variable cash expenses	316.55	333.75	292.02	285.13	278.41	282.46	320.43	341.49	449.64	475.77
General farm overhead	22.48	30.40	15.97	18.34	15.37	16.77	17.76	23.03	65.29	79.99
Taxes and insurance	21.66	28.99	19.03	23.28	17.28	20.36	18.44	26.15	44.95	54.28
Interest	25.52	26.85	26.45	26.40	24.01	23.10	21.93	24.11	34.23	36.26
Total, fixed cash expenses	69.66	86.24	61.45	68.02	56.66	60.23	58.13	73.29	144.47	170.53
Total, cash expenses	386.21	419.99	353.47	353.15	335.07	342.69	378.56	414.78	594.11	646.30
Gross value of production less cash expenses	205.72	160.61	221.92	206.38	205.17	117.98	183.02	100.78	214.83	221.85
Harvest-period price (dollars/cwt.)	6.32	5.81	6.49	6.21	6.51	5.97	6.46	5.28	5.57	5.51
Yield (cwt./planted acre)	58.67	55.45	56.88	50.89	54.85	50.29	52.36	48.58	85.72	83.55
Percent of planted rice acres in program	96	96	95	93	95	98	97	98	97	95

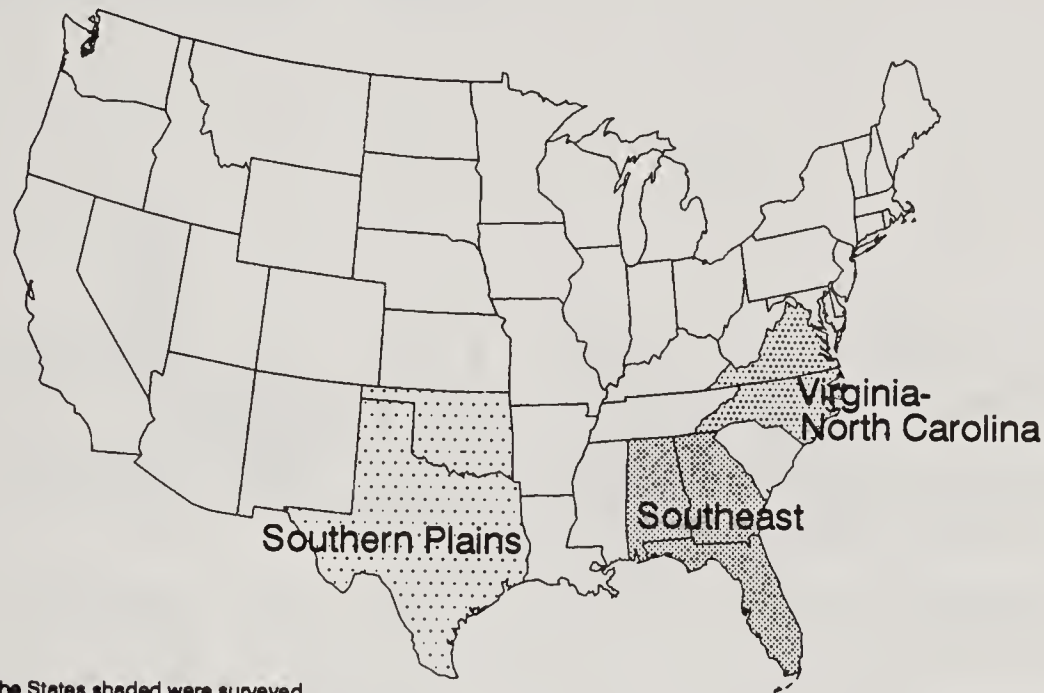
Table 7D--Rice production economic costs and returns, including direct Government payments and program participation costs, 1992-93

Item	United States 1992	United States 1993	Arkansas (non-Delta) 1992	Arkansas (non-Delta) 1993	Mississippi River Delta 1992	Mississippi River Delta 1993	Gulf Coast 1992	Gulf Coast 1993	California 1992	California 1993
Dollars per planted acre										
Gross value of production (including direct Government payments):										
Market value of rice	370.79	322.16	369.15	316.01	357.07	300.23	338.25	256.50	477.46	460.38
Direct Government payments 1/	221.11	258.40	206.24	243.52	183.16	160.43	223.30	259.00	331.35	407.62
Haying/grazing on ACR and CU acreage	0.03	0.03	0.00	0.00	0.01	0.01	0.03	0.06	0.13	0.15
Total, gross value of production	591.93	580.59	575.39	559.53	540.24	460.67	561.58	515.56	808.94	868.15
Economic (full ownership) costs:										
Variable cash expenses	316.55	333.75	292.02	285.13	278.41	282.46	320.43	341.49	449.64	475.77
General farm overhead	22.48	30.40	15.97	18.34	15.37	16.77	17.76	23.03	65.29	79.99
Taxes and insurance	21.66	28.99	19.03	23.28	17.28	20.36	18.44	26.15	44.95	54.28
Capital replacement	52.30	62.80	51.80	53.10	47.87	55.86	53.54	71.88	59.47	76.31
Operating capital	5.65	5.87	5.21	4.60	4.97	4.95	5.72	6.62	8.03	8.29
Other nonland capital	20.64	23.79	22.04	23.05	19.73	23.00	20.36	26.78	19.24	21.88
Land	120.08	84.39	122.42	64.78	106.76	86.00	101.58	58.34	182.72	155.12
Unpaid labor	25.28	29.39	26.63	28.32	15.72	19.86	30.36	38.87	28.52	29.86
Total, economic costs	584.64	599.38	555.12	500.60	506.11	509.26	568.19	593.16	857.86	901.50
Residual returns to management and risk	7.29	-18.79	20.27	58.93	34.13	-48.59	-6.61	-77.60	-48.92	-33.35
Harvest-period price (dollars/cwt.)	6.32	5.81	6.49	6.21	6.51	5.97	6.46	5.28	5.57	5.51
Yield (cwt./planted acre)	58.67	55.45	56.88	50.89	54.85	50.29	52.36	48.58	85.72	83.55
Percent of planted rice acres in program	96	96	95	93	95	98	97	98	97	95

1/ Deficiency payments and marketing loan payments. Payments not adjusted for payment limitations. 2/ Cost of custom operations and technical services. 3/ Commercial drying only beginning in 1992. 4/ Cost of purchased irrigation water, cover crop seed, and other input items. Note: Survey base year is 1992.

Figure 21

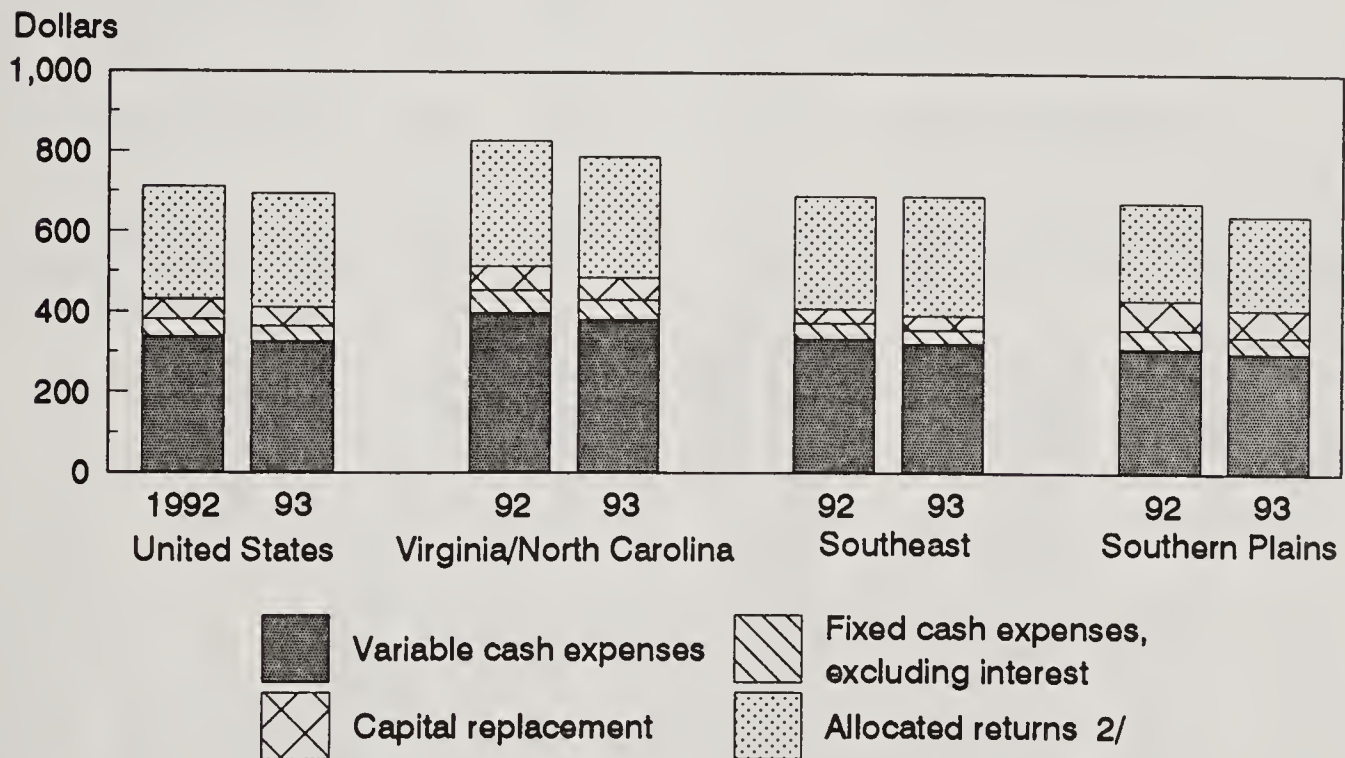
Peanut production regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 22

Peanut economic costs per planted acre, 1992-93 ^{1/}



^{1/} Excluding government payments. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland, capital, land, quota, and unpaid labor) to peanut production rather than some other income-producing use.

Table 8A--Peanut production cash costs and returns, 1992-93

Item	Virginia				Southern Plains			
	United States	North Carolina	South Carolina	South Carolina	1992	1993	1992	1993
	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre								
Gross value of production:								
Peanuts	746.96	562.67	921.51	527.33	806.50	605.98	564.54	519.48
Peanut hay	6.70	7.91	7.00	8.24	6.39	7.52	7.28	8.66
Total, gross value of production	753.66	570.58	928.51	535.57	812.89	613.50	571.82	528.14
Cash expenses:								
Seed	70.32	71.18	75.31	78.75	73.86	73.75	58.72	60.19
Fertilizer, lime, and gypsum	43.27	42.40	49.67	52.00	43.22	42.31	39.43	36.72
Chemicals	89.70	92.57	109.48	110.16	101.82	104.26	48.33	52.93
Custom operations 1/	7.90	7.92	6.41	6.56	6.50	6.63	12.21	11.95
Fuel, lube, and electricity	35.06	26.78	39.64	24.03	29.84	22.49	44.77	39.06
Repairs	29.01	27.60	30.23	28.08	25.71	24.95	36.18	33.83
Hired labor	46.47	44.93	75.41	74.01	38.64	37.72	47.42	44.94
Drying	16.36	12.71	12.69	8.34	15.01	11.29	21.89	18.90
Other variable cash expenses 2/	0.49	0.56	0.00	0.00	0.04	0.05	2.09	2.15
Total, variable cash expenses	338.58	326.65	398.84	381.93	334.64	323.45	311.04	300.67
General farm overhead	24.30	19.92	27.66	22.79	19.36	15.95	34.07	27.97
Taxes and insurance	19.12	17.57	27.23	24.92	19.20	17.80	13.91	12.50
Interest	38.44	38.93	33.43	33.80	40.53	41.01	36.54	36.94
Total, fixed cash expenses	81.86	76.42	88.32	81.51	79.09	74.76	84.52	77.41
Total, cash expenses	420.44	403.07	487.16	463.44	413.73	398.21	395.56	378.08
Gross value of production less cash expenses	333.22	167.51	441.35	72.13	399.16	215.29	176.26	150.06
Harvest-period price (dollars/lb.)	0.29	0.29	0.33	0.30	0.30	0.30	0.26	0.28
Yield (lbs./planted acre)	2,575.74	1,940.24	2,792.46	1,757.75	2,688.33	2,019.92	2,171.30	1,855.29

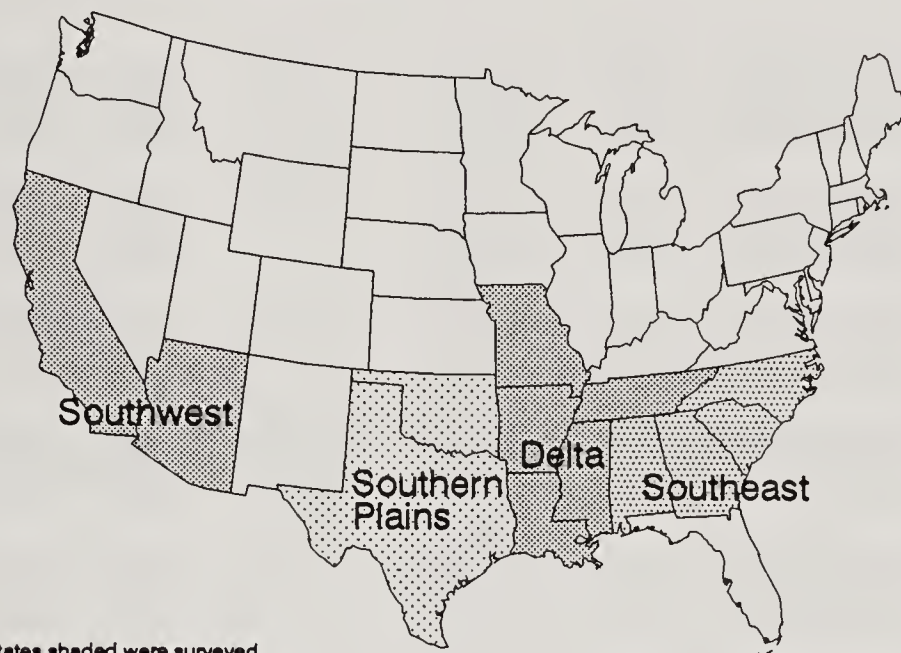
Table 8B--Peanut production economic costs and returns, 1992-93

Item	Virginia				Southern Plains			
	United States	North Carolina	South Carolina	South Carolina	1992	1993	1992	1993
	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre								
Gross value of production:								
Peanuts	746.96	562.67	921.51	527.33	806.50	605.98	564.54	519.48
Peanut hay	6.70	7.91	7.00	8.24	6.39	7.52	7.28	8.66
Total, gross value of production	753.66	570.58	928.51	535.57	812.89	613.50	571.82	528.14
Economic (full ownership) costs:								
Variable cash expenses	338.58	326.65	398.84	381.93	334.64	323.45	311.04	300.67
General farm overhead	24.30	19.92	27.66	22.79	19.36	15.95	34.07	27.97
Taxes and insurance	19.12	17.57	27.23	24.92	19.20	17.80	13.91	12.50
Capital replacement	49.16	46.41	60.59	56.10	36.39	35.32	72.80	67.86
Operating capital	6.04	5.10	7.12	5.96	5.97	5.05	5.55	4.69
Other nonland capital	25.40	23.97	27.81	25.71	19.62	19.00	37.80	35.18
Land	92.58	97.77	103.44	97.07	96.36	110.43	69.19	66.31
Peanut quota	113.38	115.40	128.45	128.01	119.45	124.24	86.66	85.84
Unpaid labor	42.67	41.24	46.45	45.56	40.75	39.29	44.93	43.41
Total, economic costs	711.23	694.03	827.59	788.05	691.74	690.53	675.95	644.43
Residual returns to management and risk	42.43	-123.45	100.92	-252.48	121.15	-77.03	-104.13	-116.29
Harvest-period price (dollars/lb.)	0.29	0.29	0.33	0.30	0.30	0.30	0.26	0.28
Yield (lbs./planted acre)	2,575.74	1,940.24	2,792.46	1,757.75	2,688.33	2,019.92	2,171.30	1,855.29

1/ Cost of custom operations and technical services. 2/ Cost of purchased irrigation water.

Figure 23

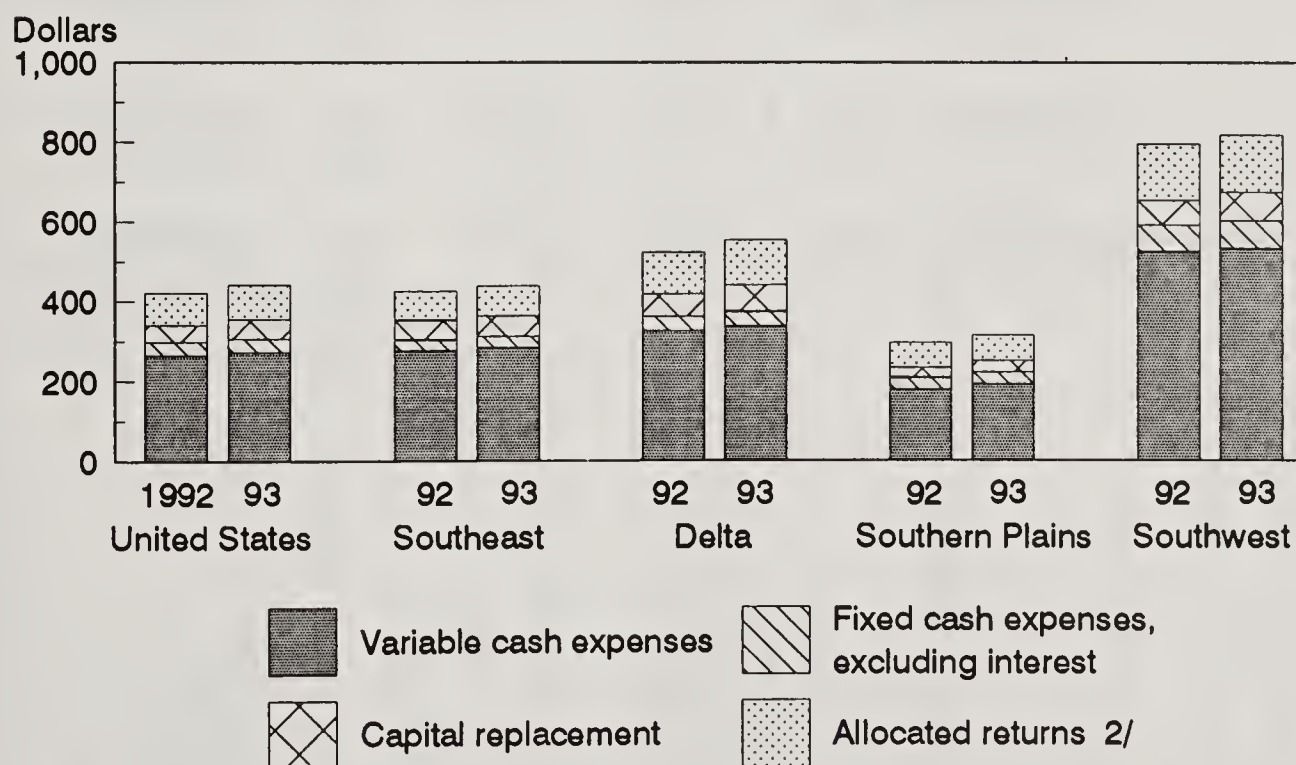
Cotton production regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 24

Cotton economic costs per planted acre, 1992-93 ^{1/}



^{1/} Excluding government payment. ^{2/} Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to cotton production rather than some other income-producing use.

Table 9A--Cotton production cash costs and returns, 1992-93

Item	United States		Southeast		Delta		Southern Plains		Southwest	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Cotton	280.04	274.80	379.52	288.42	413.46	308.08	112.92	178.95	617.53	577.40
Cottonseed	43.10	51.31	41.97	36.92	50.70	45.49	20.13	38.30	116.48	131.40
Total, gross value of production	323.14	326.11	421.49	325.34	464.16	353.57	133.05	217.25	734.01	708.80
Cash expenses:										
Seed	13.61	14.31	8.62	9.10	7.91	8.84	17.65	18.59	14.96	13.73
Fertilizer, lime, and gypsum	34.97	36.28	46.79	45.97	45.36	44.26	20.96	23.18	57.53	65.49
Chemicals	49.69	49.63	79.80	79.64	84.24	84.24	20.70	20.70	49.38	49.43
Custom operations	17.16	17.67	13.29	13.53	20.78	21.00	7.83	8.17	58.65	58.85
Fuel, lube, and electricity	32.01	33.00	22.03	23.24	27.31	28.23	35.04	35.87	43.88	44.71
Repairs	21.63	25.37	25.82	31.26	31.49	37.81	26.96	30.80	30.49	36.32
Hired labor	39.79	38.56	22.79	22.62	46.67	47.42	22.59	21.34	119.46	115.65
Ginning	49.38	51.29	56.77	58.40	60.71	63.93	26.25	31.96	101.65	99.46
Other variable cash expenses 1/	5.31	5.40	0.00	0.00	0.01	0.01	0.25	0.25	47.67	48.49
Total, variable cash expenses	263.55	271.51	275.91	283.76	324.48	335.74	178.23	190.86	523.47	532.13
General farm overhead	14.87	15.11	11.52	11.71	15.38	15.63	12.74	12.94	28.08	28.53
Taxes and insurance	19.14	20.03	15.59	16.13	19.79	21.36	15.91	16.58	39.49	41.95
Interest	17.72	17.77	20.80	21.14	23.08	23.46	9.26	9.41	37.03	37.63
Total, fixed cash expenses	51.73	52.91	47.91	48.98	58.25	60.45	37.91	38.93	104.60	108.11
Total, cash expenses	315.28	324.42	323.82	332.74	382.73	396.19	216.14	229.79	628.07	640.24
Gross value of production less cash expenses	7.86	1.69	97.67	-7.40	81.43	-42.62	-83.09	-12.54	105.94	68.56
Harvest-period price (dollars/lb.)	0.50	0.50	0.56	0.57	0.52	0.53	0.45	0.47	0.57	0.51
Yield (lbs./planted acre)	560.07	549.60	677.71	506.00	795.11	581.29	250.93	380.74	1083.39	1132.15

Table 9B--Cotton production economic costs and returns, 1992-93

Item	United States		Southeast		Delta		Southern Plains		Southwest	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Cotton	280.04	274.80	379.52	288.42	413.46	308.08	112.92	178.95	617.53	577.40
Cottonseed	43.10	51.31	41.97	36.92	50.70	45.49	20.13	38.30	116.48	131.40
Total, gross value of production	323.14	326.11	421.49	325.34	464.16	353.57	133.05	217.25	734.01	708.80
Economic (full ownership) costs:										
Variable cash expenses	263.55	271.51	275.91	283.76	324.48	335.74	178.23	190.86	523.47	532.13
General farm overhead	14.87	15.11	11.52	11.71	15.38	15.63	12.74	12.94	28.08	28.53
Taxes and insurance	19.14	20.03	15.59	16.13	19.79	21.36	15.91	16.58	39.49	41.95
Capital replacement	41.46	48.63	49.00	51.54	57.86	66.73	25.75	28.25	61.39	70.22
Operating capital	4.70	4.24	4.92	4.43	5.79	5.24	3.18	2.98	9.34	8.30
Other nonland capital	14.87	17.44	16.62	20.12	17.30	20.78	11.28	12.89	22.45	26.74
Land 2/	35.30	38.03	27.14	26.32	59.78	64.46	19.97	21.78	61.13	64.26
Unpaid labor	26.57	26.03	23.15	22.97	21.76	22.12	28.17	26.61	48.79	45.32
Total, economic costs	420.46	441.02	423.85	436.98	522.14	552.06	295.23	312.89	794.14	817.45
Residual returns to management and risk	-97.32	-114.91	-2.36	-111.64	-57.98	-198.49	-162.18	-95.64	-60.13	-108.65
Harvest-period price (dollars/lb.)	0.50	0.50	0.56	0.57	0.52	0.53	0.45	0.47	0.57	0.51
Yield (lbs./planted acre)	560.07	549.60	677.71	506.00	795.11	581.29	250.93	380.74	1083.39	1132.15

1/ Purchased irrigation water. 2/ Land costs on planted row basis.

Figure 25

Burley tobacco production



Producers in the States shaded were surveyed
about production practices and costs of production.
Production regions are not defined for tobacco.

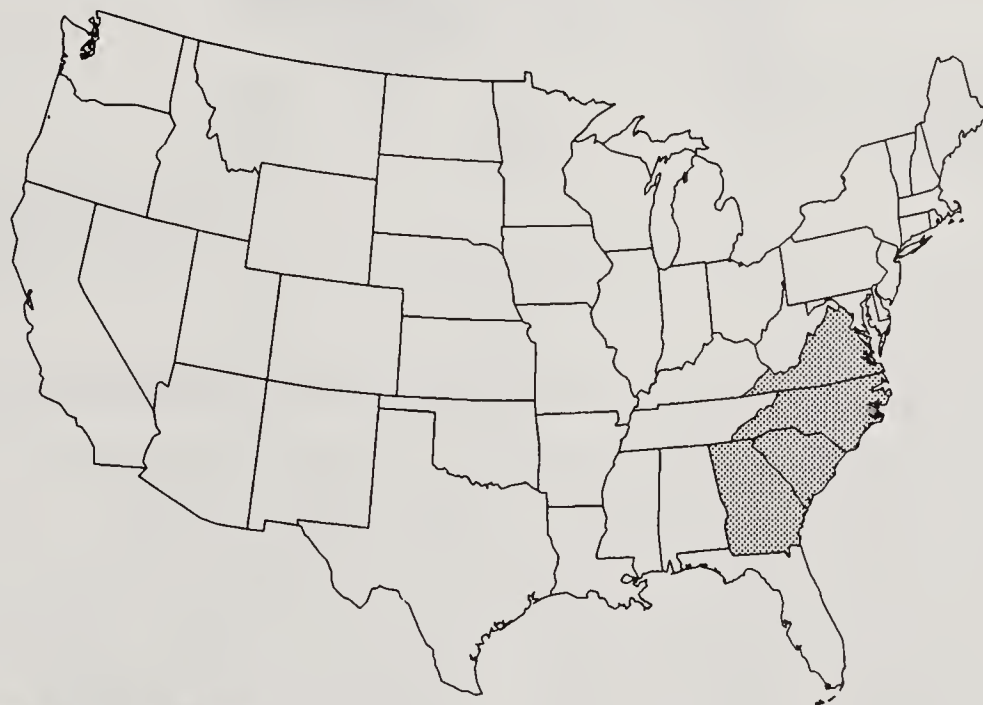
Table 10A--Burley tobacco production cash costs and returns, 1992-93

Item	United States	
	1992	1993
Dollar per acre		
Cash receipts	3,925.85	3,828.13
Variable Costs:		
Labor 1/	1,358.84	1,404.13
Noncash benefits 2/	14.69	15.16
Fertilizer and lime 3/	245.83	240.20
Plant bed materials 4/	70.65	72.17
Chemicals 5/	85.90	89.14
Custom operations	9.59	9.75
Fuel and lubrication 6/	102.66	103.69
Curing and heating fuel 7/	7.80	7.87
Repairs 8/	94.07	98.14
Marketing fee	206.11	200.98
No-net-cost & marketing assessment 9/	21.63	21.08
Inspection and grading fee	15.14	14.76
Interest 10/	17.71	16.78
Other 11/	19.58	19.92
Total, variable costs	2,270.20	2,313.77
Machinery and barn ownership costs:		
Capital replacement	254.74	265.75
Return to nonland capital	102.55	108.70
Taxes and insurance	114.18	117.99
Total ownership costs	471.47	492.44
Other Costs:		
General farm overhead	388.66	378.98
Land and quota charge 12/	1,270.31	1,238.43
Total excluding land and quota	3,130.33	3,185.19
Yield (lbs./per acre)	2,163	2,108

1/ Includes operator, family, exchange, and hired labor valued at prevailing hired wage rates. 2/ Includes, rental values of housing, personal property, utilities, drinks, snacks, and field toilets. 3/ Includes custom costs if they could not be separated from fertilizer and lime costs. 4/ Includes plant bed seed, fertilizer, pesticides, fumigants, and purchased plants. 5/ Includes custom costs if they could not be separated from the chemical costs. 6/ Includes tractor, machinery and irrigation fuel and lubrication. 7/ Includes cost of LP gas, fuel oil, or diesel fuels. 8/ Includes machinery, equipment, irrigation, and barn repairs. 9/ Marketing assessment began with the 1991 crop. 10/ Includes operating interest charged on all variable cost items except operator and family labor, marketing fees, no-net-cost assessment, and inspection and grading fees. 11/ Includes items such as sticks, twine, cover crop seed, and baling supplies. 12/ Weighted average of cash and share rented quota.

Figure 26

Flue-cured tobacco production



Producers in the States shaded were surveyed
about production practices and costs of production.
Production regions are not defined for tobacco.

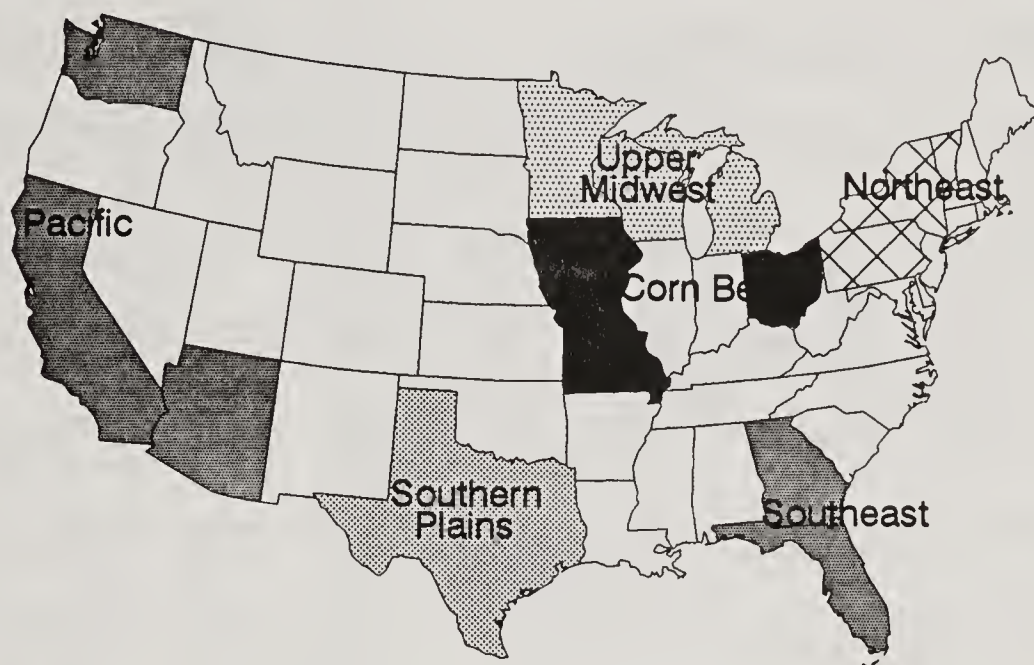
Table 11A--Flue-cured tobacco production cash costs and returns, 1992-93

Item	United States	
	1992	1993 1/
Dollar per acre		
Cash receipts	3,895.58	3,726.78
Variable Costs:		
Labor 2/	618.81	665.25
Noncash benefits 3/	22.56	22.95
Fertilizer and lime 4/	186.45	182.18
Plant bed materials 5/	43.16	44.03
Chemicals 6/	203.41	211.08
Custom operations	6.77	6.89
Fuel and lubrication 7/	59.92	60.52
Curing fuel and electricity 8/	298.16	301.16
Repairs 9/	135.31	136.50
Warehouse fee	103.23	98.76
No-net-cost & marketing assessment	22.57	22.17
Inspection and grading fee	15.80	15.52
Interest	21.03	18.95
Other 10/	3.42	3.49
Total, variable costs	1,740.60	1,789.45
Machinery and barn ownership costs:		
Capital replacement	270.03	280.76
Return to other nonland capital	92.6	96.04
Taxes and insurance	122.54	128.24
Total ownership costs	485.17	505.04
Other Costs:		
General farm overhead	252.22	241.29
Land and quota charge 11/	918.95	893.43
Total excluding land and quota	2,477.99	2,535.78
Yield (lbs./per acre)	2,257	2,217

1/ Revised. Major changes in preliminary estimates published September 1993 were due to NASS yield revisions. 2/ Includes operator, family, exchange, and hired labor valued at prevailing hired wage rates. 3/ Includes rental values of housing, personal property, utilities, drinks, snacks, and field toilets. 4/ Includes custom costs if they could not be separated. 5/ Includes plant bed seed, fertilizer, pesticides, fumigants, and purchased plants. 6/ Includes insecticides herbicides, fungicides, pesticides, and growth regulators. Also includes custom costs if they could be separated. 7/ Includes tractor, machinery, LP gas, fuel oil, or diesel, and electricity used to cure tobacco. 9/ Includes machinery, equipment, irrigation and barn repairs. 10/ Includes cover crop seed, sticks, and twine. 11/ Weighted average of cash and share rents.

Figure 27

Milk production regions

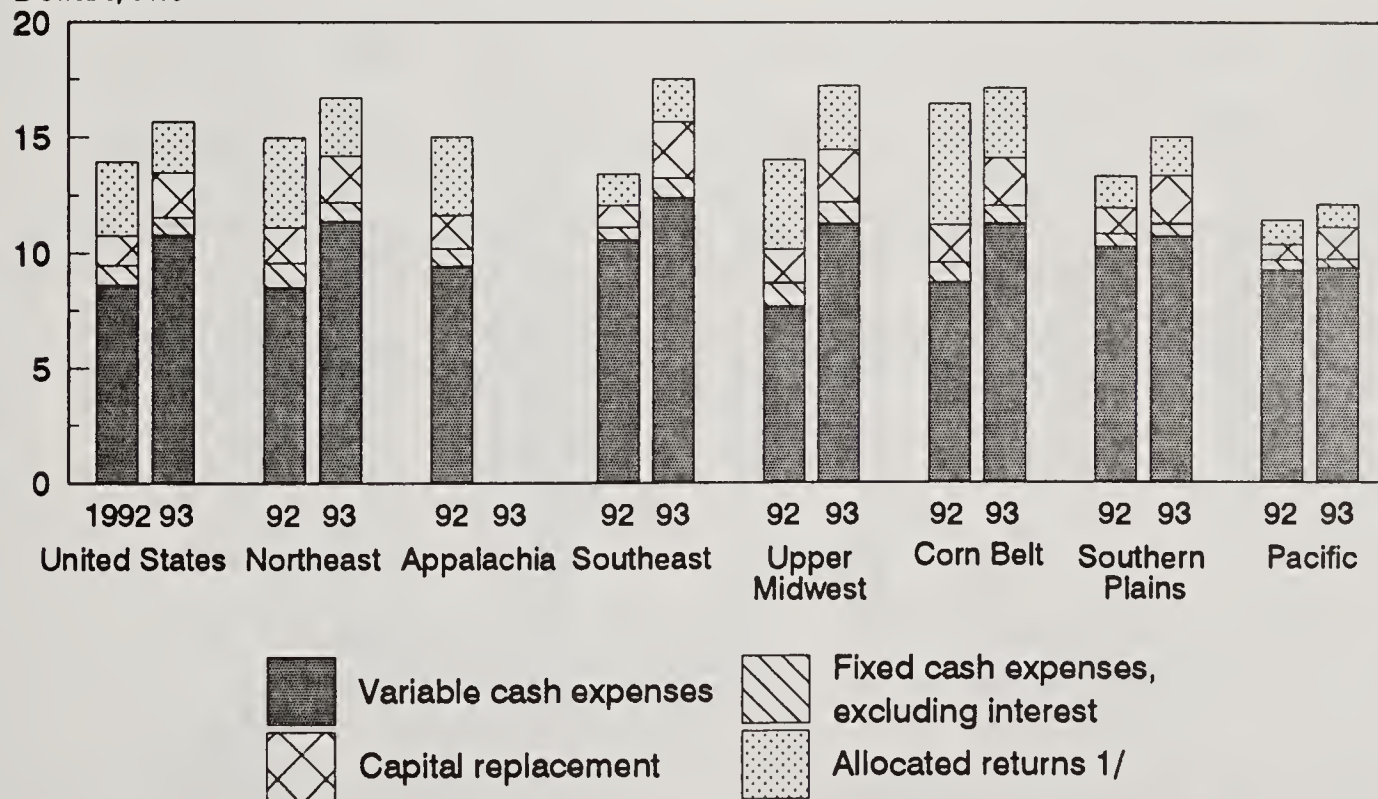


Producers in the States shaded were surveyed about production practices and costs of production. Production regions for each commodity are based on common cultural practices.

Figure 28

Milk economic costs per cwt, 1992-93

Dollars/cwt



1/ Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to milk production rather than some other income-producing use.

Table 12A--Milk production cash costs and returns, per cwt, 1992-93

Item	United States 1992	United States 1993	Northeast 6/ 1992	Northeast 6/ 1993	Appalachia 7/ 1992	Appalachia 7/ 1993	Southeast 1992	Southeast 1993	Upper Midwest 1992	Upper Midwest 1993	Corn Belt 1992	Corn Belt 1993	Southern Plains 1992	Southern Plains 1993	Pacific 1992	Pacific 1993
Dollars																
Gross value of production:																
Milk	13.15	12.78	13.78	13.34	14.13	N/A	15.42	14.98	13.11	12.89	13.21	12.88	13.70	13.30	11.85	11.74
Cattle	1.27	1.08	1.16	0.96	1.23	N/A	0.99	1.25	1.56	1.24	1.53	1.38	1.20	1.07	0.93	0.82
Other income 1/	0.16	0.48	0.13	0.38	0.20	N/A	0.07	0.41	0.19	0.60	0.17	0.41	0.08	0.33	0.15	0.49
Total, gross value of production	14.58	14.34	15.07	14.68	15.56	N/A	16.48	16.64	14.86	14.73	14.91	14.67	14.98	14.70	12.93	13.05
Cash expenses:																
Feed--																
Concentrates	3.43	3.58	3.60	3.52	3.82	N/A	5.73	5.56	2.85	3.68	4.01	3.84	4.77	5.05	3.13	2.84
By-products	0.29	0.21	0.07	0.04	0.28	N/A	0.35	0.47	0.08	0.11	0.11	0.22	0.73	0.19	0.83	0.43
Hay 2/	1.06	1.59	0.83	1.34	0.68	N/A	0.62	0.68	1.07	1.31	1.01	1.60	1.18	1.91	1.46	2.22
Silage 2/	0.81	1.43	0.94	1.81	0.85	N/A	0.30	0.95	1.05	1.90	0.47	1.30	0.40	0.10	0.61	0.89
Pasture and other forage	0.09	0.11	0.11	0.02	0.09	N/A	0.09	0.07	0.04	0.11	0.13	0.14	0.14	0.10	0.11	0.17
Other--																
Milk hauling and marketing 3/	0.59	0.73	0.64	0.95	0.79	N/A	0.62	1.13	0.47	0.52	0.62	0.73	0.74	0.88	0.62	0.73
Artificial insemination	0.13	0.13	0.16	0.16	0.14	N/A	0.09	0.09	0.15	0.16	0.12	0.12	0.04	0.05	0.11	0.1
Veterinary and medicine	0.23	0.34	0.24	0.37	0.25	N/A	0.21	0.37	0.25	0.45	0.3	0.40	0.18	0.20	0.15	0.17
Livestock hauling	0.02	--	0.02	--	0.01	N/A	0.01	--	0.03	--	0.01	--	0.01	--	0.02	--
Fuel, lube, and electricity	0.28	0.50	0.29	0.65	0.32	N/A	0.31	0.34	0.23	0.59	0.39	0.55	0.21	0.47	0.28	0.27
Machinery and building repairs	0.49	0.71	0.60	0.89	0.43	N/A	0.30	0.57	0.56	0.96	0.51	0.82	0.29	0.40	0.37	0.28
Hired labor	0.77	0.69	0.55	0.66	1.31	N/A	1.60	1.50	0.49	0.65	0.57	0.66	1.16	0.87	1.15	0.66
DHIA fees	0.06	0.07	0.07	0.08	0.06	N/A	0.03	0.04	0.07	0.07	0.07	0.07	0.02	0.05	0.05	0.06
Dairy supplies 4/	0.20	0.38	0.22	0.46	0.26	N/A	0.18	0.49	0.19	0.35	0.23	0.37	0.27	0.32	0.16	0.35
Dairy assessment	0.13	0.14	0.13	0.14	0.13	N/A	0.13	0.14	0.13	0.14	0.13	0.14	0.13	0.14	0.13	0.14
Other variable cash expenses 5/	0.06	0.20	0.08	0.29	0.05	N/A	0.00	0.00	0.05	0.28	0.05	0.32	0.01	0.00	0.07	0.04
Total, variable cash expenses	8.64	10.81	8.55	11.38	9.47	N/A	10.57	12.40	7.69	11.28	8.73	11.28	10.28	10.73	9.25	9.35
General farm overhead	0.45	0.47	0.51	0.48	0.42	N/A	0.28	0.57	0.57	0.59	0.47	0.52	0.29	0.41	0.26	0.3
Taxes and insurance	0.39	0.26	0.53	0.35	0.31	N/A	0.28	0.29	0.46	0.34	0.40	0.24	0.25	0.13	0.21	0.1
Interest	0.66	0.72	0.65	0.67	0.48	N/A	0.52	0.51	0.79	0.99	0.77	0.60	0.51	0.51	0.52	0.54
Total, fixed cash expenses	1.50	1.45	1.69	1.50	1.21	N/A	1.08	1.37	1.82	1.92	1.64	1.36	1.05	1.05	0.99	0.94
Total, cash expenses	10.14	12.26	10.24	12.88	10.68	N/A	11.65	13.77	9.51	13.20	10.37	12.64	11.33	11.78	10.24	10.29
Gross value of production less cash expenses	4.44	2.08	4.83	1.80	4.88	N/A	4.83	2.87	5.35	1.53	4.54	2.03	3.65	2.92	2.69	2.76

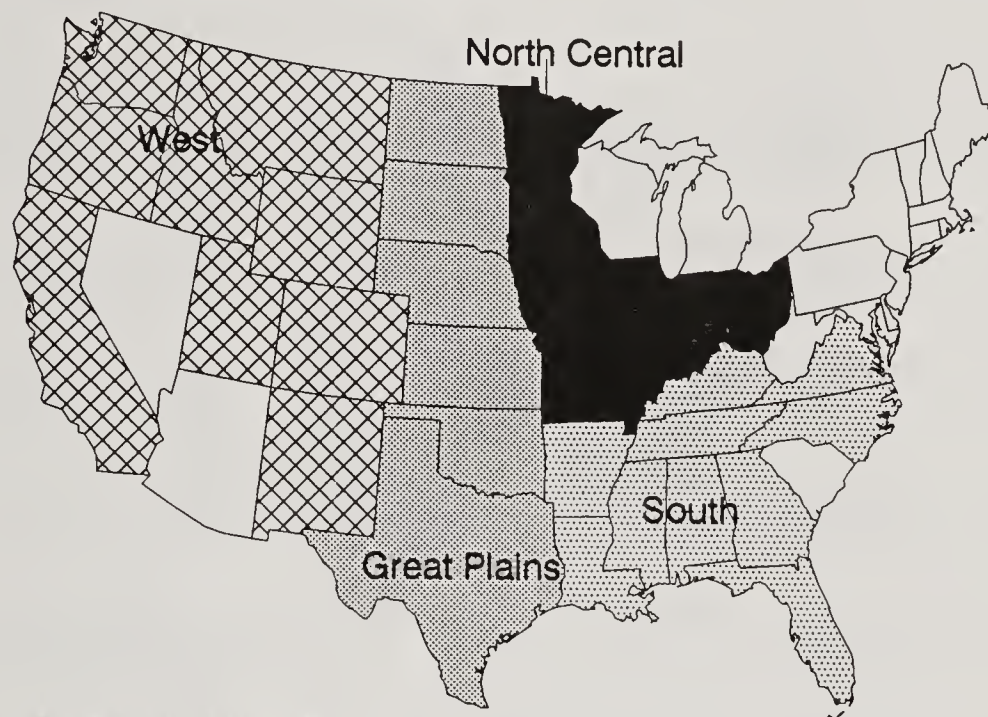
Table 12B--Milk production economic costs and returns, per cwt, 1992-93

Item	United States 1992	United States 1993	Northeast 6/ 1992	Northeast 6/ 1993	Appalachia 7/ 1992	Appalachia 7/ 1993	Southeast 1992	Southeast 1993	Upper Midwest 1992	Upper Midwest 1993	Corn Belt 1992	Corn Belt 1993	Southern Plains 1992	Southern Plains 1993	Pacific 1992	Pacific 1993
Dollars																
Gross value of production:																
Milk	13.15	12.78	13.78	13.34	14.13	N/A	15.42	14.98	13.11	12.89	13.21	12.88	13.70	13.30	11.85	11.74
Cattle	1.27	1.08	1.16	0.96	1.23	N/A	0.99	1.25	1.56	1.24	1.53	1.38	1.20	1.07	0.93	0.82
Other income	0.16	0.48	0.13	0.38	0.20	N/A	0.07	0.41	0.19	0.60	0.17	0.41	0.08	0.33	0.15	0.49
Total, gross value of production	14.58	14.34	15.07	14.68	15.56	N/A	16.48	16.64	14.86	14.73	14.91	14.67	14.98	14.70	12.93	13.05
Economic (full ownership) costs:																
Variable cash expenses	8.64	10.81	8.55	11.38	9.47	N/A	10.57	12.40	7.69	11.28	8.73	11.28	10.28	10.73	9.25	9.35
General farm overhead	0.45	0.47	0.51	0.48	0.42	N/A	0.28	0.57	0.57	0.59	0.47	0.52	0.29	0.41	0.26	0.3
Taxes and insurance	0.39	0.26	0.53	0.35	0.31	N/A	0.28	0.29	0.46	0.34	0.40	0.24	0.25	0.13	0.21	0.1
Capital replacement	1.29	1.94	1.54	1.98	1.45	N/A	0.95	2.42	1.45	2.26	1.61	2.05	1.13	2.07	0.66	1.36
Operating capital	0.04	0.06	0.04	0.06	0.04	N/A	0.05	0.07	0.03	0.06	0.04	0.06	0.05	0.06	0.04	0.05
Other nonland capital	0.87	0.86	1.07	0.84	0.88	N/A	0.40	1.52	1.13	0.98	1.07	0.87	0.44	0.88	0.33	0.61
Land	0.38	0.01	0.39	0.00	0.56	N/A	0.26	0.00	0.34	0.01	0.89	0.01	0.07	0.00	0.23	0.01
Unpaid labor	1.88	1.27	2.34	1.61	1.90	N/A	0.62	0.27	2.38	1.73	3.25	2.11	0.80	0.74	0.43	0.32
Total, economic costs	13.94	15.68	14.97	16.70	15.03	N/A	13.41	17.54	14.05	17.25	16.46	17.14	13.31	15.02	11.41	12.10
Residual returns to management and risk	0.64	-1.34	0.10	-2.02	0.53	N/A	3.07	-0.90	0.81	-2.52	-1.55	-2.47	1.67	-0.32	1.52	0.95

1/ Includes the dairy enterprise share of receipts from cooperative patronage dividends, assessment refunds, renting or leasing of dairy animals, not "manure sales" in 1993, but the estimated value of manure as a fertilizer in 1993 (i.e., N,P,K content), and insurance indemnity payments. 2/ For 1993 hay and silage produced on the farm were valued at market prices rather than variable cost of production, (no land charge for these acres as well). 3/ For 1993, includes livestock hauling. 4/ Includes expenses for custom manure hauling and disposal. 5/ Includes the dairy enterprise share of expenses for bedding and litter. 6/ For 1993, Ohio was included in the Corn Belt region. 7/ For 1993, Appalachia region was not surveyed.

Figure 29

Cow-calf production regions

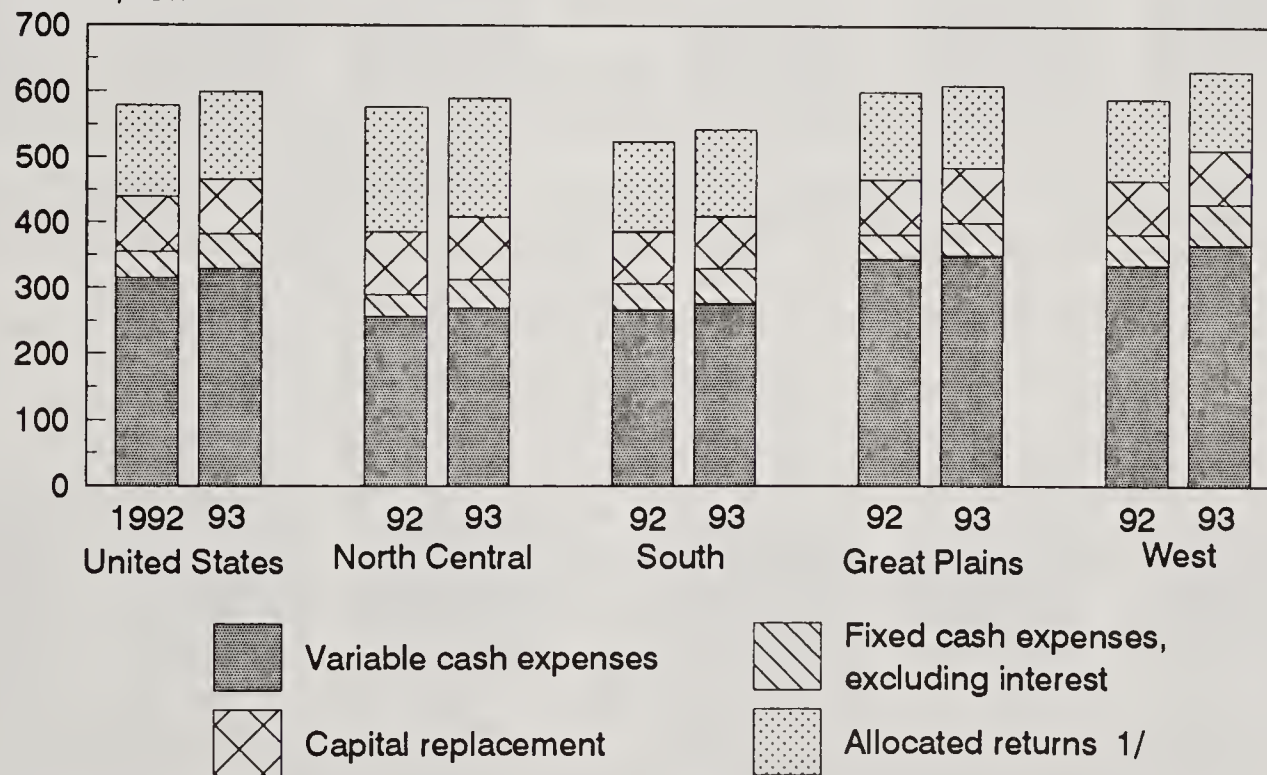


Producers in the States shaded were surveyed about production practices and costs of production. Production regions for each commodity are based on common cultural practices.

Figure 30

Cow-calf economic costs, 1992-93

Dollars/cow



1/ Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to cow-calf production rather than some other income-producing use.

Table 13A--Cow-calf production cash costs and returns, 1992-93

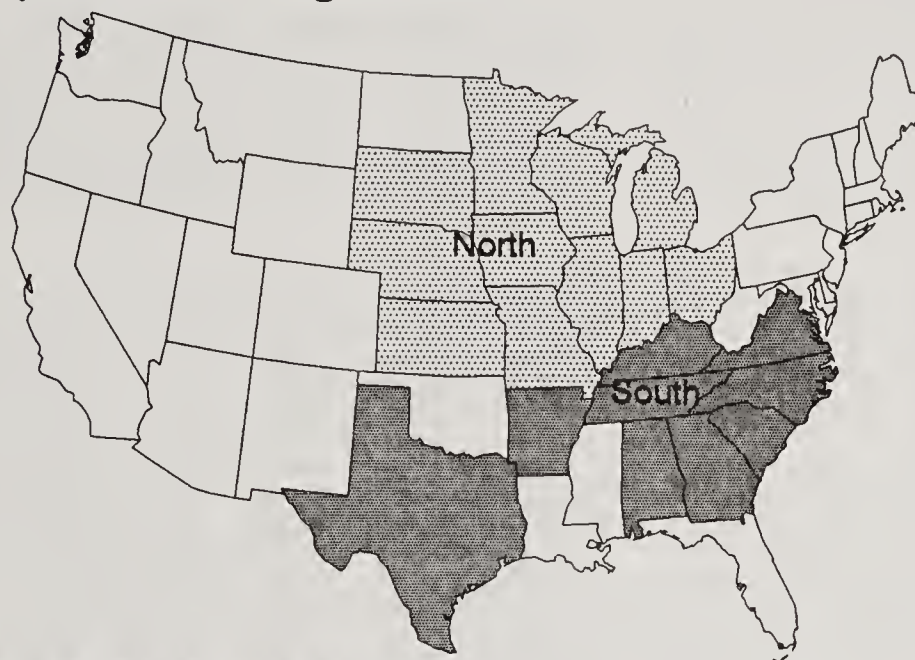
Item	United States		North Central		South		Great Plains		West	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per bred cow										
Gross value of production:										
Steer calves	57.26	61.45	56.79	59.02	78.48	82.61	51.98	57.21	47.76	51.11
Heifer calves	48.09	51.57	32.82	34.41	78.14	82.08	42.45	46.78	38.71	41.23
Yearling steers	127.26	133.28	128.29	132.12	88.80	94.23	135.29	140.58	146.86	155.93
Yearling heifers	69.72	72.88	84.43	87.32	34.61	36.47	85.28	88.67	67.98	71.85
Other cattle	111.23	111.00	90.27	91.61	72.56	72.29	131.22	129.86	122.60	123.59
Total, gross value of production	413.56	430.18	392.60	404.48	352.59	367.68	446.22	463.10	423.91	443.71
Cash expenses:										
Feeder cattle	14.12	14.87	2.60	2.65	20.01	21.35	16.34	16.95	11.10	11.84
Feed--										
Grain	7.13	8.19	9.83	11.84	5.39	6.26	8.38	9.79	5.34	5.47
Protein supplements	23.95	24.82	20.33	21.11	18.54	19.30	30.60	31.94	19.77	19.90
By-products	7.53	7.57	4.84	5.00	14.55	14.53	7.07	7.10	3.57	3.56
Harvested forages	74.67	77.25	68.07	70.61	45.37	47.26	83.15	85.47	89.39	93.22
Pasture	81.00	86.17	44.87	45.02	54.34	53.84	90.03	89.66	106.72	128.77
Total feed costs	194.28	204.00	147.94	153.58	138.19	141.19	219.23	223.96	224.79	250.92
Other--										
Veterinary and medicine	15.64	17.58	23.56	27.81	9.49	13.35	18.10	17.33	13.18	16.67
Livestock hauling	3.39	4.12	1.25	1.52	5.17	6.27	2.41	2.95	4.47	5.44
Marketing	3.56	4.12	3.17	3.66	3.97	4.60	3.82	4.42	2.96	3.42
Custom feed mixing	0.18	0.20	0.04	0.04	0.11	0.13	0.24	0.28	0.19	0.22
Fuel, lube	20.39	21.29	25.21	26.29	20.85	21.46	21.81	22.86	15.43	16.16
Machinery and building repairs	27.02	27.82	35.44	36.56	26.56	27.43	28.97	29.72	20.28	20.81
Hired labor	30.47	29.19	12.20	11.51	35.86	34.65	27.53	26.10	39.29	38.11
Other variable cash expenses	5.47	5.42	5.06	4.96	6.57	6.60	5.97	5.87	3.96	3.87
Total, variable cash expenses	314.52	328.61	256.47	268.58	266.78	277.03	344.42	350.44	335.65	367.46
General farm overhead	27.87	37.60	22.80	30.86	26.21	35.43	27.82	37.57	31.80	42.85
Taxes and insurance	12.09	15.56	10.38	13.40	13.51	17.51	9.55	12.30	15.72	20.21
Interest	27.97	33.13	27.95	33.30	16.17	19.26	23.48	27.84	45.17	53.68
Total, fixed cash expenses	67.93	86.29	61.13	77.56	55.89	72.20	60.85	77.71	92.69	116.74
Total, cash expenses	382.45	414.90	317.60	346.14	322.67	349.23	405.27	428.15	428.34	484.20
Gross value of production less cash expenses	31.11	15.28	75.00	58.34	29.92	18.45	40.95	34.95	-4.43	-40.49

Table 13B--Cow-calf production economic costs and returns, 1992-93

Item	United States		North Central		South		Great Plains		West	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
Dollars per bred cow										
Gross value of production:										
Steer calves	57.26	61.45	56.79	59.02	78.48	82.61	51.98	57.21	47.76	51.11
Heifer calves	48.09	51.57	32.82	34.41	78.14	82.08	42.45	46.78	38.71	41.23
Yearling steers	127.26	133.28	128.29	132.12	88.80	94.23	135.29	140.58	146.86	155.93
Yearling heifers	69.72	72.88	84.43	87.32	34.61	36.47	85.28	88.67	67.98	71.85
Other cattle	111.23	111.00	90.27	91.61	72.56	72.29	131.22	129.86	122.60	123.59
Total, gross value of production	413.56	430.18	392.60	404.48	352.59	367.68	446.22	463.10	423.91	443.71
Economic (full ownership) costs:										
Variable cash expenses	314.52	328.61	256.47	268.58	266.78	277.03	344.42	350.44	335.65	367.46
General farm overhead	27.87	37.60	22.80	30.86	26.21	35.43	27.82	37.57	31.80	42.85
Taxes and insurance	12.09	15.56	10.38	13.40	13.51	17.51	9.55	12.30	15.72	20.21
Capital replacement	84.65	84.22	95.80	96.04	79.71	79.43	85.37	84.40	82.38	82.30
Operating capital	8.42	7.69	6.87	6.29	7.14	6.48	9.22	8.20	8.99	8.60
Other nonland capital	37.27	35.49	48.10	45.41	35.26	33.67	36.92	35.20	34.36	32.66
Land	0.04	0.04	0.12	0.12	0.05	0.05	0.02	0.02	0.02	0.02
Unpaid labor	92.84	89.25	134.99	128.56	95.53	93.41	86.57	82.48	80.29	77.33
Total, economic costs	577.70	598.46	575.53	589.26	524.19	543.01	599.89	610.61	589.21	631.43
Residual returns to management and risk	-164.14	-168.28	-182.93	-184.78	-171.60	-175.33	-153.67	-147.51	-165.30	-187.72

Figure 31

Hog production regions



Producers in the States shaded were surveyed about production practices and costs of production.

Figure 32

Hog economic costs per cwt gain, 1993

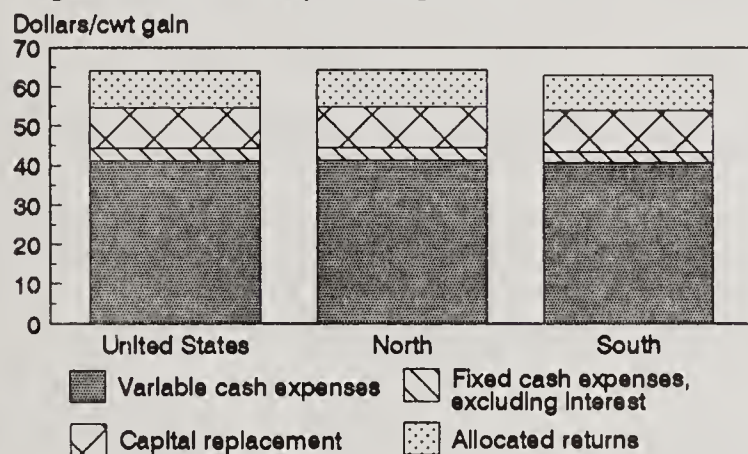


Figure 33

Farrow-to-feeder pig economic costs per cwt gain, 1993

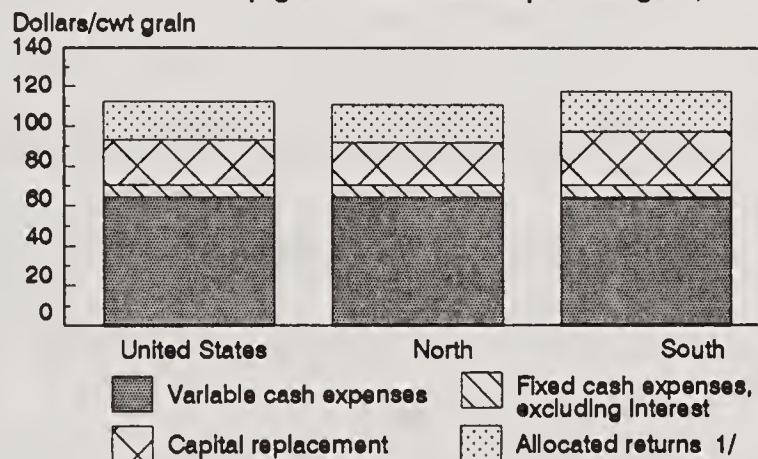


Figure 34

Feeder pig-to-finish economic costs per cwt gain, 1993

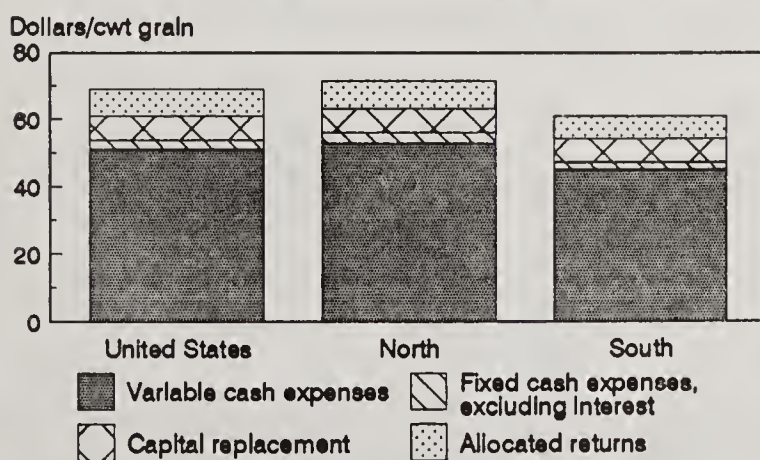
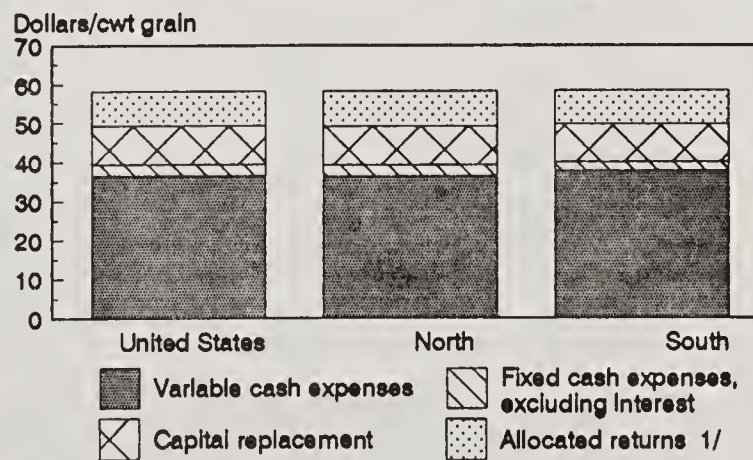


Figure 35

Farrow-to-finish economic costs, per cwt gain, 1993



1/ Income foregone by allocating resources owned by the operation (operating and other nonland capital, land, and unpaid labor) to hog production rather than some other income-producing use.

Table 14A--Hog production cash costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollars per cwt gain 1/						
Gross value of production:						
Market hogs	38.43	43.47	38.31	43.55	39.04	43.06
Feeder pigs	4.43	5.42	4.43	5.42	4.45	5.42
Cull stock	2.39	2.66	2.39	2.64	2.39	2.76
Breeding stock	2.17	2.40	2.28	2.52	1.66	1.82
Inventory change	-0.03	-0.51	0.06	-0.80	-0.49	0.91
Other income 2/	1.10	1.09	1.15	1.15	0.86	0.80
Total, gross value of production	48.49	54.53	48.62	54.48	47.91	54.77
Cash expenses:						
Feed--						
Grain	11.17	13.93	11.32	14.30	10.41	12.17
Protein sources	8.87	9.39	9.25	9.87	6.98	7.16
Complete mixes	5.34	5.27	4.57	4.41	9.21	9.36
Other feed items 3/	0.59	0.57	0.67	0.64	0.23	0.22
Total feed costs	25.97	29.16	25.81	29.22	26.83	28.91
Other--						
Feeder pigs	3.24	3.95	3.11	3.80	3.86	4.67
Veterinary and medicine	1.28	1.48	1.38	1.63	0.78	0.78
Bedding and litter	0.08	0.09	0.09	0.10	0.02	0.02
Marketing	0.52	0.59	0.48	0.57	0.72	0.68
Custom services and supplies	0.43	0.49	0.41	0.48	0.51	0.52
Fuel, lube, and electricity	1.65	1.70	1.64	1.70	1.73	1.68
Repairs	1.22	1.27	1.23	1.28	1.14	1.22
Hired labor	2.62	2.54	2.66	2.57	2.42	2.40
Total, variable cash expenses	37.01	41.27	36.81	41.35	38.01	40.88
General farm overhead	1.43	2.08	1.51	2.21	1.03	1.49
Taxes and insurance	0.83	1.12	0.85	1.14	0.75	1.03
Interest	2.58	3.25	2.74	3.47	1.77	2.21
Total, fixed cash expenses	4.84	6.45	5.10	6.82	3.55	4.73
Total, cash expenses	41.85	47.72	41.91	48.17	41.56	45.61
Gross value of production less cash expenses	6.64	6.81	6.71	6.31	6.35	9.16

Table 14B--Hog production economic costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollars per cwt gain 1/						
Gross value of production:						
Market hogs	38.43	43.47	38.31	43.55	39.04	43.06
Feeder pigs	4.43	5.42	4.43	5.42	4.45	5.42
Cull stock	2.39	2.66	2.39	2.64	2.39	2.76
Breeding stock	2.17	2.40	2.28	2.52	1.66	1.82
Inventory change	-0.03	-0.51	0.06	-0.80	-0.49	0.91
Other income 2/	1.10	1.09	1.15	1.15	0.86	0.80
Total, gross value of production	48.49	54.53	48.62	54.48	47.91	54.77
Economic (full ownership) costs:						
Variable cash expenses	37.01	41.27	36.81	41.35	38.01	40.88
General farm overhead	1.43	2.08	1.51	2.21	1.03	1.49
Taxes and insurance	0.83	1.12	0.85	1.14	0.75	1.03
Capital replacement	9.69	10.24	9.75	10.18	9.40	10.52
Operating capital	0.66	0.64	0.66	0.64	0.68	0.64
Other nonland capital	3.38	3.58	3.34	3.49	3.56	4.00
Land	0.24	0.24	0.26	0.26	0.16	0.16
Unpaid labor	5.05	4.86	5.15	4.98	4.57	4.31
Total, economic (full-ownership) costs	58.29	64.03	58.33	64.25	58.16	63.03
Residual returns to management and risk	-9.80	-9.50	-9.71	-9.77	-10.25	-8.26

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production.

3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

Table 15A--Farrow-to-finish production cash costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollar per cwt gain 1/						
Gross value of production:						
Market hogs	39.75	44.87	39.70	45.07	39.99	43.89
Feeder pigs	0.39	0.47	0.38	0.46	0.42	0.53
Cull stock	2.27	2.52	2.40	2.65	1.58	1.86
Breeding stock	0.19	0.21	0.17	0.19	0.27	0.31
Inventory change	-0.16	-0.58	0.07	-0.85	-1.33	0.73
Other income 2/	1.15	1.13	1.19	1.19	0.91	0.85
Total, gross value of production	43.59	48.62	43.91	48.71	41.84	48.17
Cash expenses:						
Feed--						
Grain	11.51	14.40	11.37	14.39	12.24	14.47
Protein sources	9.57	10.15	9.72	10.36	8.82	9.14
Complete mixes	3.90	3.85	3.45	3.32	6.26	6.43
Other feed items 3/	0.55	0.53	0.60	0.58	0.30	0.29
Total feed costs	25.53	28.93	25.14	28.65	27.62	30.33
Other--						
Feeder pigs	0.14	0.17	0.16	0.19	0.06	0.07
Veterinary and medicine	1.12	1.30	1.17	1.40	0.83	0.83
Bedding and litter	0.06	0.06	0.06	0.07	0.02	0.02
Marketing	0.43	0.49	0.41	0.48	0.55	0.53
Custom services and supplies	0.37	0.42	0.36	0.42	0.43	0.43
Fuel, lube, and electricity	1.56	1.60	1.52	1.58	1.74	1.71
Repairs	1.19	1.24	1.20	1.25	1.11	1.21
Hired labor	2.36	2.29	2.34	2.25	2.47	2.46
Total, variable cash expenses	32.76	36.50	32.36	36.29	34.83	37.59
General farm overhead	1.26	1.84	1.32	1.92	0.98	1.43
Taxes and insurance	0.76	1.02	0.77	1.03	0.68	0.93
Interest	2.31	2.91	2.46	3.11	1.56	1.93
Total, fixed cash expenses	4.33	5.77	4.55	6.06	3.22	4.29
Total, cash expenses	37.09	42.27	36.91	42.35	38.05	41.88
Gross value of production less cash expenses	6.50	6.35	7.00	6.36	3.79	6.29

Table 15B--Farrow-to-finish production economic costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollar per cwt gain 1/						
Gross value of production:						
Market hogs	39.75	44.87	39.70	45.07	39.99	43.89
Feeder pigs	0.39	0.47	0.38	0.46	0.42	0.53
Cull stock	2.27	2.52	2.40	2.65	1.58	1.86
Breeding stock	0.19	0.21	0.17	0.19	0.27	0.31
Inventory change	-0.16	-0.58	0.07	-0.85	-1.33	0.73
Other income 2/	1.15	1.13	1.19	1.19	0.91	0.85
Total, gross value of production	43.59	48.62	43.91	48.71	41.84	48.17
Economic (full ownership) costs:						
Variable cash expenses	32.76	36.50	32.36	36.29	34.83	37.59
General farm overhead	1.26	1.84	1.32	1.92	0.98	1.43
Taxes and insurance	0.76	1.02	0.77	1.03	0.68	0.93
Capital replacement	9.39	9.92	9.50	9.94	8.78	9.84
Operating capital	0.58	0.57	0.58	0.57	0.62	0.58
Other nonland capital	3.30	3.48	3.30	3.44	3.29	3.69
Land	0.24	0.25	0.26	0.27	0.16	0.16
Unpaid labor	4.82	4.64	4.88	4.71	4.49	4.26
Total, economic (full-ownership) costs	53.11	58.22	52.97	58.17	53.83	58.48
Residual returns to management and risk	-9.52	-9.60	-9.06	-9.46	-11.99	-10.31

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production.

3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

Table 16A--Farrow-to-feeder pig production cash costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollar per cwt gain 2/						
Gross value of production:						
Market hogs	0.89	1.00	0.94	1.06	0.74	0.79
Feeder pigs	63.94	77.69	64.88	78.74	60.44	73.91
Cull stock	5.67	6.31	5.67	6.21	5.68	6.67
Breeding stock	0.11	0.12	0.12	0.14	0.09	0.08
Inventory change	2.43	-0.14	-0.14	-0.37	12.04	0.66
Other income 2/	1.20	1.17	1.21	1.20	1.14	1.07
Total, gross value of production	74.24	86.15	72.68	86.98	80.13	83.18
Cash expenses:						
Feed--						
Grain	13.75	16.92	15.56	19.47	6.96	7.76
Protein sources	8.84	9.46	9.82	10.70	5.15	5.01
Complete mixes	14.00	13.91	10.75	10.14	26.15	27.45
Other feed items 3/	0.79	0.75	0.94	0.90	0.21	0.20
Total feed costs	37.38	41.04	37.07	41.21	38.47	40.42
Other--						
Feeder pigs	0.04	0.04	0.05	0.05	0.01	0.01
Veterinary and medicine	4.37	5.01	4.99	5.83	2.06	2.07
Bedding and litter	0.18	0.21	0.22	0.25	0.05	0.04
Marketing	2.44	2.66	2.03	2.36	3.97	3.71
Custom services and supplies	1.14	1.28	0.91	1.04	2.01	2.14
Fuel, lube, and electricity	4.90	5.02	4.94	5.11	4.75	4.71
Repairs	2.64	2.72	2.79	2.88	2.08	2.14
Hired labor	6.89	6.79	6.35	6.09	8.95	9.33
Total, variable cash expenses	59.98	64.77	59.35	64.82	62.35	64.57
General farm overhead	2.54	3.72	2.59	3.78	2.35	3.48
Taxes and insurance	1.68	2.30	1.61	2.18	1.92	2.71
Interest	4.77	6.06	4.66	5.83	5.16	6.85
Total, fixed cash expenses	8.99	12.08	8.86	11.79	9.43	13.04
Total, cash expenses	68.97	76.85	68.21	76.61	71.78	77.61
Gross value of production less cash expenses	5.27	9.30	4.47	10.37	8.35	5.57

Table 16B--Farrow-to-feeder pig production economic costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollar per cwt gain 2/						
Gross value of production:						
Market hogs	0.89	1.00	0.94	1.06	0.74	0.79
Feeder pigs	63.94	77.69	64.88	78.74	60.44	73.91
Cull stock	5.67	6.31	5.67	6.21	5.68	6.67
Breeding stock	0.11	0.12	0.12	0.14	0.09	0.08
Inventory change	2.43	-0.14	-0.14	-0.37	12.04	0.66
Other income 2/	1.20	1.17	1.21	1.20	1.14	1.07
Total, gross value of production	74.24	86.15	72.68	86.98	80.13	83.18
Economic (full ownership) costs:						
Variable cash expenses	59.98	64.77	59.35	64.82	62.35	64.57
General farm overhead	2.54	3.72	2.59	3.78	2.35	3.48
Taxes and insurance	1.68	2.30	1.61	2.18	1.92	2.71
Capital replacement	21.22	22.66	20.78	21.53	22.86	26.70
Operating capital	1.07	1.01	1.06	1.01	1.11	1.01
Other nonland capital	6.87	7.32	6.68	6.89	7.56	8.85
Land	0.48	0.50	0.47	0.49	0.54	0.55
Unpaid labor	10.97	10.54	10.96	10.61	11.01	10.28
Total, economic (full-ownership) costs	104.81	112.82	103.50	111.31	109.70	118.15
Residual returns to management and risk	-30.57	-26.67	-30.82	-24.33	-29.57	-34.97

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production.

3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

Table 17A--Feeder pig-to-finish production cash costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollars per cwt gain 1/						
Gross value of production:						
Market hogs	52.80	60.08	53.16	61.06	51.55	56.94
Feeder pigs	0.05	0.05	0.05	0.06	0.04	0.05
Cull stock	0.01	0.02	0.01	0.01	0.04	0.04
Breeding stock	0.01	0.01	0.01	0.02	0.00	0.00
Inventory change	0.10	-0.18	0.04	-0.73	0.31	1.55
Other income 2/	0.95	0.93	1.08	1.08	0.50	0.45
Total, gross value of production	53.92	60.91	54.35	61.50	52.44	59.03
Cash expenses:						
Feed--						
Grain	9.39	11.58	10.43	13.15	5.76	6.58
Protein sources	5.52	5.80	6.23	6.65	3.04	3.11
Complete mixes	7.20	7.18	5.75	5.63	12.32	12.15
Other feed items 3/	0.38	0.35	0.46	0.44	0.08	0.08
Total feed costs	22.49	24.91	22.87	25.87	21.20	21.92
Other--						
Feeder pigs	18.05	21.84	18.33	22.39	17.07	20.07
Veterinary and medicine	0.71	0.81	0.83	0.98	0.31	0.29
Bedding and litter	0.11	0.13	0.14	0.17	0.01	0.00
Marketing	0.39	0.45	0.39	0.47	0.40	0.39
Custom services and supplies	0.34	0.39	0.32	0.38	0.42	0.44
Fuel, lube, and electricity	0.82	0.84	0.80	0.83	0.92	0.87
Repairs	0.83	0.86	0.88	0.92	0.64	0.66
Hired labor	0.98	0.93	1.11	1.07	0.55	0.49
Total, variable cash expenses	44.72	51.16	45.67	53.08	41.52	45.13
General farm overhead	1.23	1.78	1.33	1.95	0.86	1.24
Taxes and insurance	0.80	1.08	0.83	1.11	0.72	0.99
Interest	2.81	3.51	3.08	3.89	1.86	2.30
Total, fixed cash expenses	4.84	6.37	5.24	6.95	3.44	4.53
Total, cash expenses	49.56	57.53	50.91	60.03	44.96	49.66
Gross value of production less cash expenses	4.36	3.38	3.44	1.47	7.48	9.37

Table 17B--Feeder pig-to-finish production economic costs and returns, 1992-93

Item	United States		North		South	
	1992	1993	1992	1993	1992	1993
Dollars per cwt gain 1/						
Gross value of production:						
Market hogs	52.80	60.08	53.16	61.06	51.55	56.94
Feeder pigs	0.05	0.05	0.05	0.06	0.04	0.05
Cull stock	0.01	0.02	0.01	0.01	0.04	0.04
Breeding stock	0.01	0.01	0.01	0.02	0.00	0.00
Inventory change	0.10	-0.18	0.04	-0.73	0.31	1.55
Other income 2/	0.95	0.93	1.08	1.08	0.50	0.45
Total, gross value of production	53.92	60.91	54.35	61.50	52.44	59.03
Economic (full ownership) costs:						
Variable cash expenses	44.72	51.16	45.67	53.08	41.52	45.13
General farm overhead	1.23	1.78	1.33	1.95	0.86	1.24
Taxes and insurance	0.80	1.08	0.83	1.11	0.72	0.99
Capital replacement	6.75	7.11	6.85	7.16	6.38	6.96
Operating capital	0.80	0.80	0.81	0.83	0.74	0.70
Other nonland capital	2.50	2.65	2.41	2.51	2.83	3.09
Land	0.11	0.12	0.13	0.13	0.06	0.07
Unpaid labor	4.54	4.32	4.96	4.77	3.04	2.89
Total, economic (full-ownership) costs	61.45	69.02	62.99	71.54	56.15	61.07
Residual returns to management and risk	-7.53	-8.11	-8.64	-10.04	-3.71	-2.04

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production.

3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

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